


Farming for Health

Green-Care Farming Across Europe and the United States of America

Edited by

Jan Hassink and Majken van Dijk





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FARMING FOR HEALTH

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and the United States of America

Edited by


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PREFACE

The utilization of agricultural farms as a basis for promoting human mental and physical health and social well-being is a relatively recent development. The health sector and social services currently appear to need alternatives to traditional medical treatment, therapy, rehabilitation, and work training. On farms, the animals, the plants, the garden, the forest and the landscape are used in recreational or work-related activities, for psychiatric patients, people with learning disabilities, people with a drug history, problem youth, burnout and elderly people and social-service clients. If not pure therapy, such activities may have therapeutic value according to extensive experience. The numbers of such multifunctional farms offering Green Care services are increasing rapidly in many countries. The positive experiences seem to be similar in different countries: working on the farm contributes to self-esteem, social skills, rehabilitation, inclusion, responsibility, physical health and sense of purpose (Lenhard et al. 1997; Ketelaars et al. 2002; Vadnal 2003). Important recognized qualities of Green Care farms are the space, quietness, useful work, diverse activities, caring activities, working with plants and animals and the protective and caring environment of the farmer's family and the social community.

The therapeutic use of plants and farm animals in projects involving horticulture and animal-assisted therapy and activity is well known in several countries. Most of these projects were associated with hospitals and health institutions. Nowadays an increasing number of projects are adopted by community gardens, city farms, allotment gardens and farms. Social farming appears as an evolving, dynamic scenario, which is gaining increasing attention from multiple stakeholders. In most countries social farming is not an organized system, but rather a patchwork-like reality developed from bottom-up actions.

There is much practical experience in utilization of farms, farm animals, plants, gardens and the landscape for rehabilitation and therapy for different target groups. So far, however, the exchange of knowledge and experiences between different countries is limited. Participants from twelve European countries and the US, involved in social farming or Green Care, horticultural therapy and animal-related therapies, initiated a Community of Practice 'Farming for Health' in 2004. The term 'Farming for Health' comprises a wide spectrum of different kinds of social agriculture in different countries, including social farming or Green Care and the specific use of plants, landscapes, gardens and farm animals in therapy or in a recreative setting in order to improve well-being or to reach pre-defined goals. The motive to start this Community of Practice was the observation that Farming for Health is growing across Europe and that different regions and countries can learn from each other. Participants from the different countries are highly motivated to exchange information, to develop a research agenda and a common conceptual framework in order to professionalize this new field. The participants realized that in order to professionalize this new field it is important to get a clear picture of the

state of the art concerning Farming for Health in the different countries. This book is the result of their dedication.

The first part contains scientific papers dealing with different aspects of Farming for Health. The second part describes the situation in different countries. The last chapter presents the main differences and similarities between different countries and the recommendations for a research and policy agenda that were formulated during the second meeting of the Community of Practice in March 2005.

ACKNOWLEDGEMENTS

The editors thank the participants and authors from the different countries for their contributions, and their co-organizers¹ of the first and second meeting of the Community of Practice 'Farming for Health', both in The Netherlands (Vorden, April 2004, and Wageningen, March 2005). This book is the first product of the Community of Practice.

The editors also thank the sponsors of the meetings: The European Science Foundation (ESF), Triodosfonds, Ionastichting and Frontis – Wageningen International Nucleus for Strategic Expertise.

Thanks are also due to the Committee of Recommendation: H. Wijffels (Chairman of the Social-Economic Council of the Netherlands), W. Visscher (Council of Europe), C. Ross-van Dorp (Minister of Public Health, Welfare and Sport of The Netherlands), J. Troost (Chronic-patient and Handicapped Council of The Netherlands) and M. Glöckler, Medical section of Goetheanum.

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Jan Hassink and Majken van Dijk

NOTES

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THEMATIC STUDIES

CHAPTER 1

THEORETICAL MODELS FOR RESEARCH AND PROGRAM DEVELOPMENT IN AGRICULTURE AND HEALTH CARE

Avoiding random acts of research

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Abstract. The need to document the efficacy of nature-based therapeutic modalities is of concern to all who support and encourage this field of endeavour. While a relatively large body of information is available very few of the articles are published in clinical and medical journals that provide the underlying basis for academic, programmatic and policy decisions, and little of it is based on the high level of rigorous research needed to gain respect as a contributing part of health-care science. In addition, the difficulties in forming a coherent profession go beyond the lack of adequate and appropriate research to the core problem of uniform terminology in the field and coherent theoretical framework to guide the research and implementation of treatment. With that conclusion in mind, the majority of this paper will look at models (either as text or diagrams) that have been put forth, as a starting point for establishing effective theories of human–nature interaction in a therapeutic or treatment setting to guide future research in horticultural therapy (HT), animal-assisted therapy (AAT) and Agriculture in Healthcare programs. Based on the experiences discussed relevant to HT, recommendations for future action are given.

INTRODUCTION

The need to document the efficacy of nature-based therapeutic modalities is of concern to all who support and encourage this field of endeavour. Research has been conducted that documents positive and negative aspects of these areas. A relatively large body of published information is available particularly in *animal-assisted therapy* (AAT) and *horticultural therapy* (HT). However a search of the literature rapidly establishes that very few of the articles are published in clinical and medical journals that provide the underlying basis for academic, programmatic and policy decisions. Rather they tend to be published in the journals of professionals and practitioners who seek more applied knowledge that has not been as rigorous in its development. Rapp (2002) states the situation as it applies to AAT very clearly:

Given the large number of variables contained in published studies of AAT, it is understandable we remain convinced in a general sense that AAT is helpful without

having a unitary description of what it is or why it may work. Arkow and authors in the Fine (2000) handbook raise further ethical concerns about both clients and animal partners in AAT and note the need for more sophisticated research. They urge researchers to provide clearer operationalizations of process and outcome variables, baseline and long-term follow-up data, and control and comparison treatment groups. To date, relatively few AAT studies have shown these elements. According to Arkow (personal communication, February 20, 2002), "All of the questions we have been asking since the 1970s remain to be answered".

Frumkin (2004), Chair of the Department of Environmental and Occupational Health at Rollins School of Public Health of Emory University, Department of Medicine, Emory Medical School, Atlanta, reinforces this same point:

There is evidence that some kinds of environmental exposures, including contact with plants, contact with animals, views of landscapes, and wilderness experiences, may have positive health effects. Indeed, this link is the basis for such clinical practices as horticultural therapy. However, the available evidence falls short of what is routinely required of a new medication or surgical procedure. Physicians, health policy experts, and regulators require rigorous evidence of the efficacy and safety of clinical practices.

To address this short fall he proposes "a marriage of clinical epidemiology and horticulture, identifying key research needs and opportunities at the intersection of horticulture and human health, and suggesting ways that sound science can help evaluate and advance horticultural therapies" (Frumkin 2004).

Not only is there a significant lack of the rigorous research but indeed, the theoretical models on which to base both research and practice have not been clearly and concisely defined and utilized for testing and implementation. This paper will first provide a background overview of the research areas involved in *agriculture and health care*. This will be followed by a discussion of the types of research needed. The focus of the paper is on the theoretical models for research and program development. While the models under discussion are selected from HT and *human issues in horticulture* (HIH) publications, they share underlining philosophy that the interrelationship with a living organism which has existed throughout all of human history is the essential element creating positive benefits.

OVERVIEW OF RESEARCH AND RESEARCH-RELATED PROBLEMS

There are several resources for gaining an overview of the relevant research:

- Frumkin (2001) provides a referred-literature-based argument that there is now sufficient evidence to the efficacy of human–nature interaction for prevention and treatment as to justify a serious research effort.
- The Delta Society on their website Health Benefits of Animals (2005) provides abstracts of presentations, articles with many citations, and bibliographies that list hundreds of additional articles divided into the categories of general, adults, seniors, children, families, companion animals in the community, pet loss and bereavement.
- Relf and Lohr have written several review articles on HIH (Relf 1992a; Lohr and Relf 2000; Relf and Lohr 2003).

- The People Plant Council's bibliography of publication on HT and HIH (including related research cited by researchers in the field) has been updated to contain over 4,000 citation and is available in End-note (Relf 2005a).
- A review of the People Plant Council's history includes citations of proceedings and other sources for research in the field (Relf et al. 2004).
- Several trade-association web pages including Plants at Work (*Homepage Plants at Work* 2005) and Plants for People (*Homepage Plants for People* 2005) provide extensive information on the research relative to people-plant interaction in general.
- In addition, reviews have been prepared that focus more directly on the relationship between horticulture and special populations (Relf and Dorn 1995) and most recently the value of social and therapeutic horticulture (Sempik et al. 2003).
- Methods used in social sciences are discussed regarding their application to HIH research (Shoemaker et al. 2000).
- Special issues HortTechnology have been produced related to HIH and contain numerous relevant articles (Relf 1992b; 1995; Lohr 2000).
- Several volumes of *Acta Horticulturae* are also of interest to researchers in this field (Matsuo and Relf 1995; Relf and Kwack 2004).

These abstracts, articles and bibliographies are useful to lend credence to the idea that the human-nature bond does exist and have therapeutic potential. However further examination of the available literature forces acknowledgment that little of it is based on the high level of rigorous research needed to gain respect as a contributing part of health-care science. Simultaneously, the research fails to provide clear direction in the effective application of techniques.

The difficulties in forming a coherent profession go beyond the lack of adequate and appropriate research to the core problem of uniform terminology in the field. The widely used lay terms 'pet therapy' and 'garden therapy' with inference of a volunteer-led, feel-good activity transitioned to the professional terms horticultural therapy and animal-assisted therapy but without an accompanying transition in meaning to a goal-directed treatment modality under the guidance of a trained professional. Attempts to broaden the profession of HT by claims that it encompasses all positive benefits of human-plant interaction have instead created the impression that it cannot be a legitimate profession because anyone can do it and all people benefit (analogous to claiming that all physical activity is therapeutic; therefore anytime anyone runs/walks/swims, it is physical therapy). The American Horticultural Therapy Association (AHTA) (2005) currently defines HT in the broadest possible terms to be all inclusive of anyone who might have any interest in the profession as "A process in which plants and gardening activities are used to improve the body, mind and spirits of people. HT is an effective and beneficial treatment for people of all ages, backgrounds, and abilities". Thrive (Sempik et al. 2003) on the other hand uses a definition based on the occupational therapy model "Horticultural therapy is the use of plants by trained professionals as a medium thorough which certain clinically defined goals may be met".

Other terms such as ‘therapeutic horticulture’, ‘therapeutic activities in horticulture’, ‘social horticulture’, ‘horticultural well-being’, ‘horticulture for health’, etc. seek to address the disparity in understanding of the term ‘horticultural therapy’. Thrive (Sempik et al. 2003) uses an appropriately broader and more inclusive definition: “Therapeutic horticulture is the process by which individuals may develop well-being using plants and horticulture. This is achieved by active or passive involvement”. But there is not a widely agreed-upon understanding of the meaning of those terms nor do authors generally define their use of the words. When we cannot even define what we are talking about, it is exceedingly difficult to develop a coherent research program that quantifies and qualifies the depth and breadth of the profession and the efficacy of the activity in a treatment or other therapeutic context.

Unfortunately, large portions of the people involved in the agriculture-related health-care arena are there because of their personal affinity for nature. These professionals utilize HT as a means of staying around plants more of the time, while those individuals in AAT love their dogs and cats. Serendipitously they can help other people at the same time and get paid for it. On the surface there is nothing wrong with this. However, in reality it means they have no motivation to conduct the research needed to turn a job into a professional career. Nor do most practitioners understand the need for research or the type of research that is needed.

RESEARCH NEEDS

The comments on research needs will address only those identified in the US through 35 years of work in (or tangential to) horticultural therapy, along with citation from researchers in allied fields concerned with supporting this emerging field of health care. Web searches and discussions with peers indicate that related professions in the agriculture and health-care arena (i.e., AAT) share these research needs.

Demographic and census data on the application of HT

Currently enumerations of how extensively and where HT is practiced are based on a combination of broad observation, general reading, and citations from other generalists. There have been no comprehensive national studies conducted that would provide the baseline data against which it is possible to determine if the utilization of horticulture and landscaping as a treatment modality is growing, static or declining. Demographic data could be used effectively to target the areas in which research can have the greatest impact and to solicit the funding for that research. In addition, it would help in decision-making regarding providing the educational and professional development support needed to expand the application of HT. Demographic data or enumerations that are needed include:

○ *Programming data*

- The clientele populations actually served by HT/horticulture programs.
- Number of HT/horticulture programs for any (or each) clientele population that is cited as utilizing it.

- The types of facilities (nursing homes, senior centres, rehabilitation hospitals) using HT/horticulture.
- The number of facilities with HT/horticulture programs.
- The size of the HT/horticulture program within a facility.
- The role of the horticulture program within the over-all facility or the department in which it is practiced (OT, AT, PT, HT as a stand-a-lone).
- The top 20 HT/horticulture activities used for each clientele group.
- The top 20 goals of the HT/horticulture program for each clientele group.
- The top 20 adaptations of the HT/horticulture activities for each clientele group.
- The top 20 plants and/or plant types used.
- *Professional development data*
 - The title (professional qualification) of the person responsible for the program (OT, PT, Voc Rehab Specialist, HT).
 - The number of OT PT, RT, AT and each other professional group that actual utilize HT/horticulture in their program (and the number that would be interested).
 - The number and role of volunteers with each clientele group or facility.
 - Skill and knowledge required by someone conducting programs.
 - Resources available/needed to effectively support programs.
 - Current and advanced training needed to maintain credentials.
 - Salary expectations at various training levels.
- *Criteria for evaluating success of programs*
 - Number of participants self-selecting to attend.
 - Progress on written goals.
 - Economic or cost effectiveness.

Quantified and qualified research data to support HT as an effective tool in evidence-based medicine

Defined as “the conscientious, explicit and judicious use of current best evidence in making decisions about the care of individual patients or the delivery of health services” (Sackett et al. 1996). Frumkin points out that “few papers report empirical data on the links between contact with plants and human health. Among these, unfortunately, methodological limitations abound”. He concludes that what is needed is a rigorous deductive study based on the concept of “concluding that something works when it successfully withstands formal attempts to demonstrate its worthlessness (Frumkin 2004)”. Factors in research that need to be implemented include:

- Randomized controlled trials or similar designs.
- Sufficient numbers of subjects to make statistically sound conclusions.
- Interventions carefully defined.
- Sources of bias and confounding controlled.
- Collaboration with health scientists such as epidemiologists.

Types of quantified and qualified research data are indicated below by examples of questions that have been addressed (usually in isolated not replicated research) or that could be addressed:

- Health-related quality-of-life outcomes measures
 - Behavioural changes reflecting increased positive perception of immediate environment.
 - Increases in scores on validated tests of the goal-directed changes.
- Health-related social outcomes measures
 - Reduced instances of isolation, loneliness, etc.
 - Measurable increases in communications, eye-contact or other indices of interaction.
 - Increases in scores on validated tests of goal-directed changes.
- Health-related cognitive outcomes measures
 - Measurable increase or maintenance in skills and knowledge related to diagnosed impairment.
 - Increases in scores on validated tests of goal-directed changes.
 - Health-related psychological outcome measures
 - Changes in physiological measurements such as stress indicators in response to treatment activity.
 - Increases in scores on validated tests of goal-directed changes.
- Health-related physical outcomes measures
 - Reduction in weight, osteoporosis or physical impacts of horticultural activities.
 - Measurable positive changes in targeted physical skills and/or endurance.

The few papers that do report empirical links are hampered not only by methodological limitations, they also lack a unifying theoretical basis that links them in a way that leads toward more generalized conclusions on the efficacy of human-nature interactions in treatment, thus becoming random acts of research functioning to answer isolated questions or to provide a thesis topic for a degree.

DEVELOPING THEORETICAL MODELS FOR RESEARCH AND IMPLEMENTATION

As professions concerned with health-care outcomes mature, the need for a theoretical framework to guide the research and implementation of treatment becomes increasingly evident as indicated by the books and course on the subject in Occupational Therapy (McColl et al. 1993; 2002).

Coyle (2000) reports that problems discussed as related to HT as a treatment modality are far from unique in the health-care arena. According to him in March of 1998:

“The Advisory Commission on Consumer Protection and Quality in Health Industry released a report in response to the US Presidential Executive Order that recommended increasing funding for outcomes research. This report indicated that outcomes research was critical to assessing the effectiveness of treatment and the quality of care.

METHODS: A systematic review was conducted of the pertinent English literature that describes the development, methods, and limitations of outcomes research to identify methods for minimizing its limitations. **RESULTS:** Current evidence indicates that approximately 80% of commonly used medical treatments have not been shown to be efficacious, primarily because the necessary randomized controlled trials have not been conducted because of methodological problems, the time required for their execution, the expense, or ethical reasons. Therefore, physicians disagree on the value of many common clinical practices, which is reflected in the large variation in medical care prescribed for different populations. Outcomes research, which is conducted under actual clinical practice conditions using effectiveness studies, offers an efficient approach for investigating the link between medical care and outcomes. However, the major limitation of past outcomes research has been its limited ability to link medical care with outcomes, because of the lack of theory development to guide the research process, inadequate data sources, or both. **CONCLUSIONS:** The literature review suggests that the use of pertinent theoretical constructs to guide the outcomes research process will generate the results needed to assess the effectiveness of treatment and the quality of care."

With that conclusion in mind, the remainder of this paper will look at models (either as text or diagrams) that have been put forth as a starting point for establishing effective theories of human-nature interaction in a therapeutic or treatment setting for future research in HT, ATT, and Agriculture in Healthcare programs.

Biophilia Hypothesis provides the underlying philosophy for all aspects of human-environmental interaction (Kellert and Wilson 1993), and there are a number of professional research areas including environmental psychology and sociobiology that provide models for our research conceptualization including the works of the Kaplans (Kaplan and Kaplan 1989) and Ulrich (1983). Additional research areas from which we may draw inspiration for structuring our research include those that seek to improve human health (occupational, physical and recreational therapies) and those that seek to understand human processes (gerontology, psychology). The area in which we work (as compared to outdoor education, wilderness experiences, etc.) looks at the man-made aspect of human-nature experiences and explores it from the perspective of how we can, as agriculturists, horticulturists, veterinarians and related professionals, best understand and insure optimum exposure to other living organisms in a health-care context. We must design and test the theoretical models that will allow us to focus the research efforts and to recognize the links between the findings of various researchers. An effective research focus is critical to gain professional acknowledgment and efficacy.

Modeling the definition of HT

In professional presentations, workshops and course lectures Relf has long presented the model of HT (Relf 2005a), first published by her in a text format in 1995 (Relf and Dorn 1995) and in graphic representation in Figure 1. This model is much more closely aligned with the definition of HT espoused by Thrive, based on the occupational-therapy model, than that of AHTA in that this model requires both measurable (clinically defined) treatment goals and a trained professional. It also differs from the AHTA model in that it defines HT as targeted to clients with a clear

diagnosis rather than being “people of all ages, backgrounds, and abilities” and focuses on the care and nurturing of living plants versus “A process in which plants and gardening activities”. This shift carries HT beyond the experience of landscapes and the use of aromatherapy in defining the action of the clients and the skills of the therapist.

This same model could be easily adapted to represent therapeutic horticulture as the process by which individuals may develop well-being using plants and horticulture, by substituting ‘diagnosed client’ with ‘individual’ and ‘measurable goals’ with ‘well-being’ and including ‘amateur’ with ‘trained professional’ as the person responsible for the outcomes.

Extensive discussion of the interactions zones A, B and C provides useful insight into the factors that limit HT and activity from actually being HT, and can bring focus to both program implementation and research.

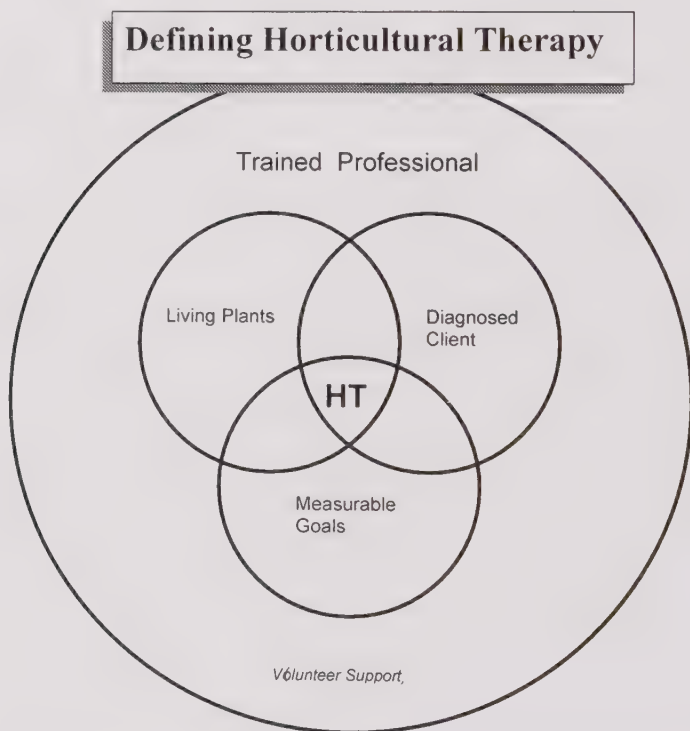


Figure 1. A model defining Horticultural Therapy by integrating the key elements that define it as a profession, based on presentation, workshops and lectures from Relf starting in 1978 using a Venn diagram (Relf 2005a)

Modelling the benefits of HT

As early as 1973, Relf (1973) proposed a model that categorized or organized the areas in which benefits of horticultural therapy could be seen. A graphic representation is presented in Figure 2a. While the model was useful for enumerating or structuring the benefits, it failed to show the relationship between them. Takaesu, psychiatrist, owner and director of Izumi Hospital, Okinawa, Japan in discussion at an HT workshop at Virginia Tech University and subsequently in unpublished lecture notes, restructured the diagram to show the relationship among the areas of benefit, integrate other expressive or creative therapies, and elaborate on the nature of the response by psychiatric patients (Takaesu 1998). His graphic representation is given in Figure 2b.

It was not until 2004 that Relf began to explore the potential of this simple graphic model further, to understand the relationships among the benefits that appear to be presented by HT and to find the loci for the limited empirical research currently available as shown in Figure 2c. This model also represents further thinking on the critical role that plants can play in developing a life-centred philosophy to bring spiritual stability and meaning to individuals. Other changes suggested by this model include the use of the term psychological in place of emotional and cognitive in place of intellectual with the related changes in meaning.

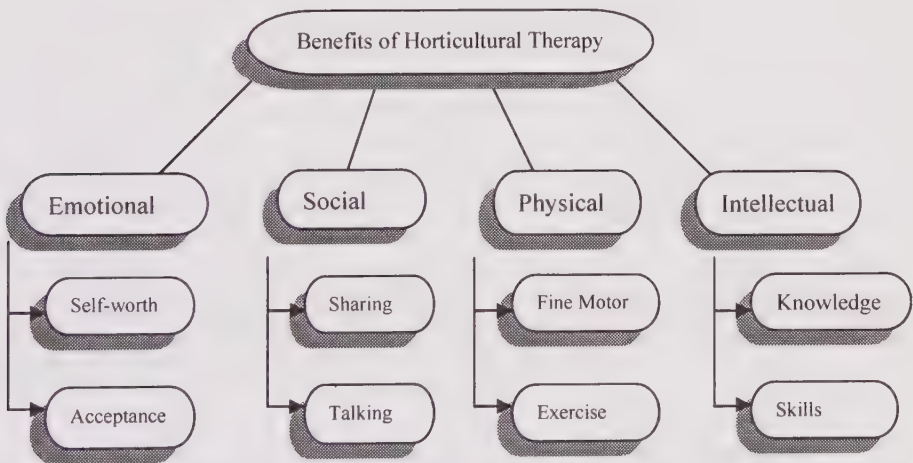


Figure 2a. *Graphic representation of the benefits of Horticultural Therapy based on a model proposed by Relf (1973)*

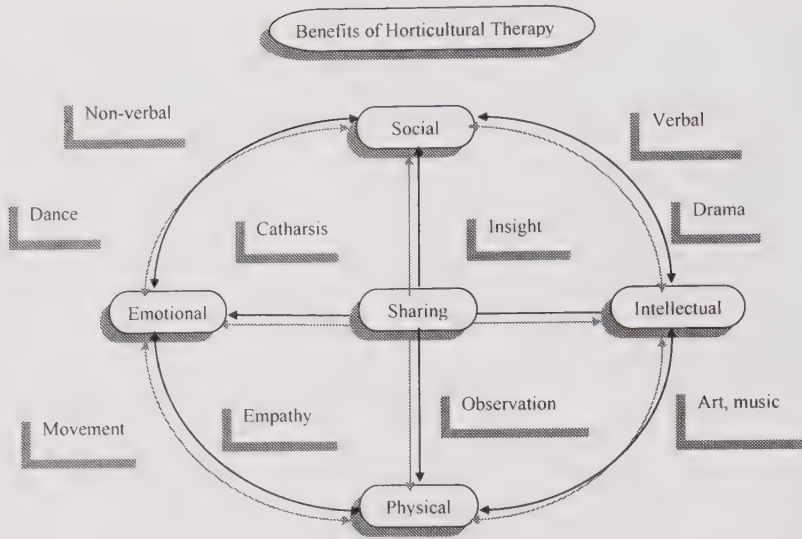


Figure 2b. Adaptations to Relf's model of the benefits of Horticultural Therapy by Takaesu (1998)

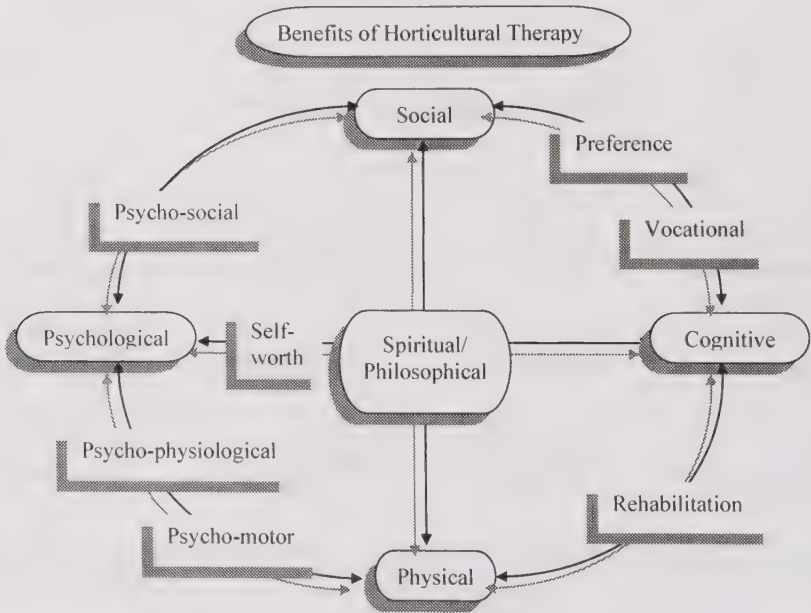


Figure 2c. Adaptations by Relf to the model of the benefits of horticultural therapy in Figure 2b to identify loci of current research and to include the spiritual/philosophical component of the benefits

It is evident from study of this model that it is composed of sweeping generalizations that could apply in both a treatment and non-treatment setting; that is, the benefits in each area are seen by anyone who gardens. Indeed it does not have to be restricted to horticultural benefits but rather could apply to many other activities. This broad structure demands that it be refined for each clientele group in order to address the goals of different treatment programs. The advantage to this approach is that a generalized model presents the potential for greater insight into the human-nature interaction (thus its therapeutic potential) by offering the potential for overlays of information across clientele to create a picture of similarities in response.

A disadvantage to this model is that it is two-dimensional, restricting the graphic display of many critical interactions that would create a confusion of lines and intersections; for example the psycho-cognitive response for the acquisition of new skills and knowledge are not appropriately linked. However with increased skills among researchers in the use of the computer for three-dimensional modelling this weakness can be corrected and a fuller understanding brought to a new model.

Modelling the mechanism of HT

In 1981, Relf published a text model of the dynamics of HT given in graphic representation in Figure 3a (Relf 1981). In this model 'Interaction' represents the ability of horticultural activities to provide an optimum setting for social exchange in various forms, based on the writings and theories of Charles Lewis (1979) and Stamm and Barber (1978). 'Reactions' represents the innate response of humans to the plants around them based on the theories of the Kaplans (S. Kaplan 1973b; R. Kaplan 1973a; 1977) and Iltis (1974). 'Action' represented the impact of the act of cultivating and care for the live plants. Relf put forth the concept that the actual act of caring for living plants worked in many different ways to benefit the client, based on experience, observation and research in the literature. Her theory was that the care of living plants is the unique element that HT brings to a treatment program and the mechanism involved needs to be fully understood and utilized (Relf 1981). Matsuo expanded greatly on one element of the 'action' of horticulture, that of creativity, when he articulated his model of horticulture brings balance to a life so that one may live as fully human (Matsuo 1995).

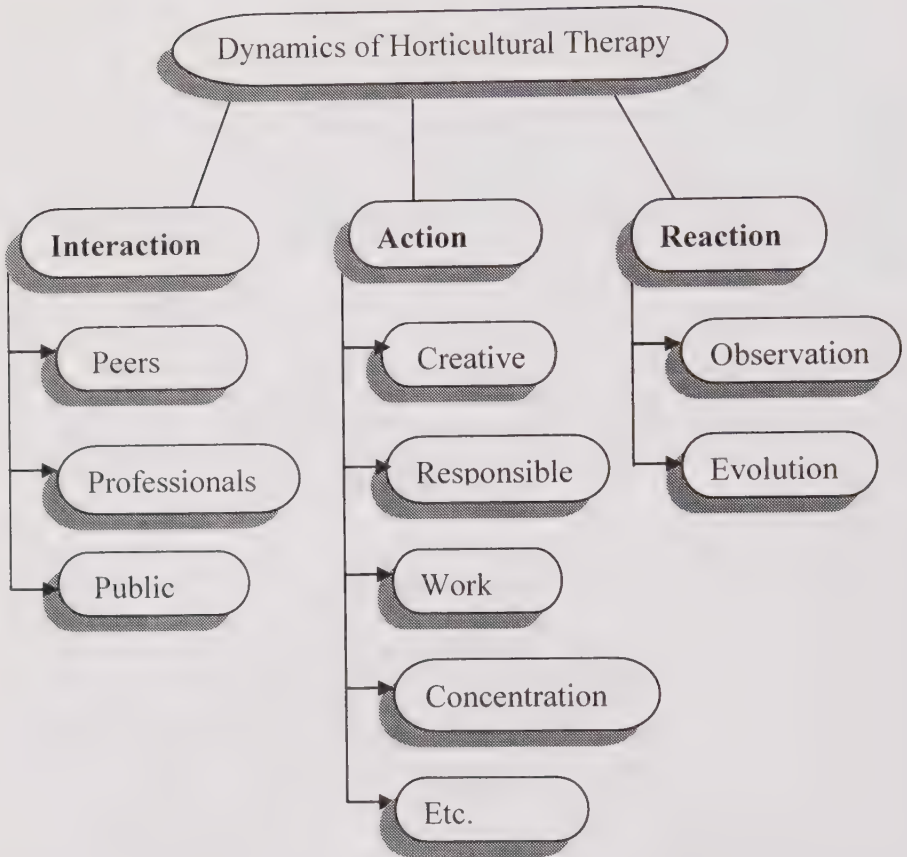


Figure 3a. Graphic representation of the mechanisms by which Horticultural Therapy works based on the model proposed by Relf (1981)

As research in these areas proceeds, the relationship between the elements has become clearer and is expressed graphically in Figure 3b. It is evident that all interaction of humans with plants will result in the responses classified in 'reaction' that are being elucidated by the environmental psychologists and other researchers on human response to visual and other cues about their natural surrounding, and specifically plants. Further, a great deal of the response takes place in an 'interaction' or social context. Thus, in so far as plants influence human social interaction, there would be two factors influencing any research and programming involved in passive (not responsible for the care of the plant) interaction with plants. 'Action' then becomes the focused area in which HT takes place. While by definition all 'action' will elicit the 'reaction' to nature, the care and responsibility for plants may involve 'interaction' with others, including the therapist, or it may involve individual or isolated work, with each of these approaches being represented by an area in the figure.

Dynamics of Horticultural Therapy

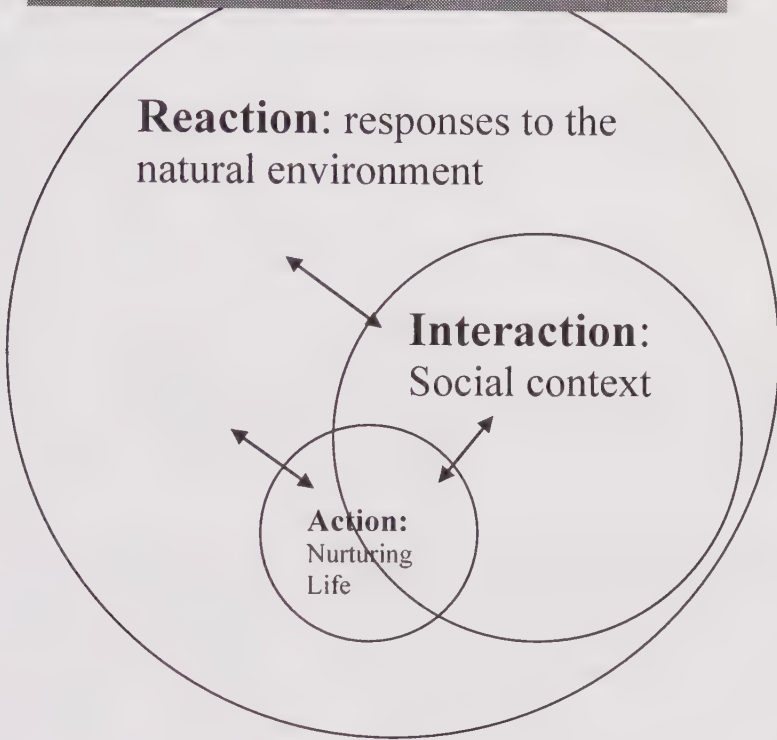


Figure 3b. A model of the dynamics of Horticultural Therapy to illustrate the relationships between the three elements expressed by Relf (1981)

A similar figure could serve as the basis for an understanding of the various forms of landscaped related to health and well-being, based in part on the model put forth by Relf (2005b) and shown in Figure 4a. A significantly more intricate and complex model (Figure 4b) has been proposed by Asano-Miyake (2002) to further understand the experience of healing landscapes.

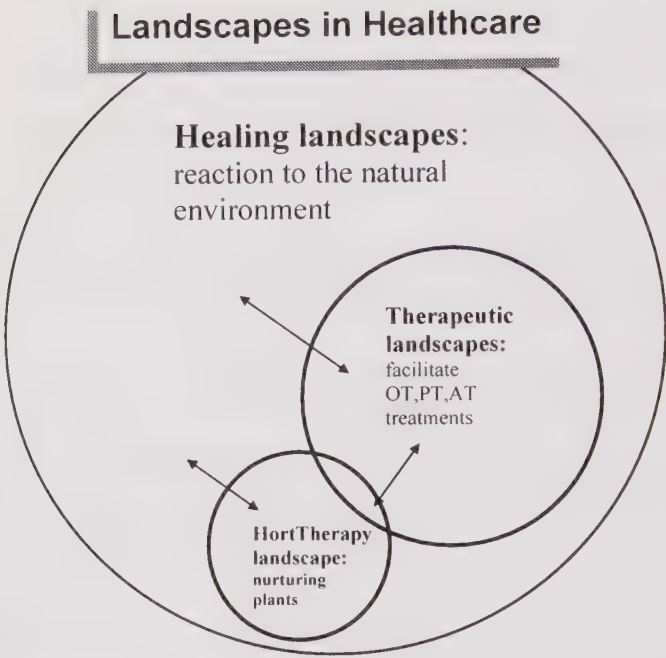


Figure 4a. A model developed by Relf for understanding the interaction of various types of landscapes in health care, based on the model for the dynamics of Horticultural Therapy given in Figure 3b

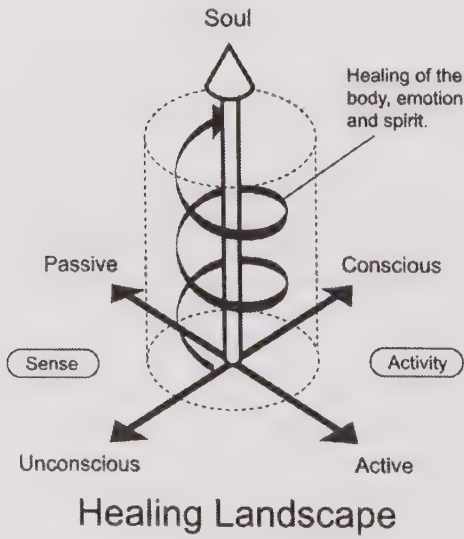


Figure 4b. A model titled "Holistic healing by relating to nature" by Asano-Miyake (2002)

Modelling the mechanism of well-being or quality of life

Originally developed for a presentation in Korea (Relf 1998), then published in the Journal of Therapeutic Horticulture (Relf 1999), this model (Figure 5a) focuses on the larger picture of the role of horticulture in human existence and life quality, identifying specific roles of plants, the horticultural activities that enable these roles, and the human actions and responses that lead to the benefits to be obtained. Thrives' model, given in Figure 5b, provides "a simple model of the processes, activities and outcomes of social and therapeutic horticulture as described in the literature showing the interconnectedness of all elements" (Sempik et al. 2003). These models may serve as points to initiate discussion for further improvements in the model.

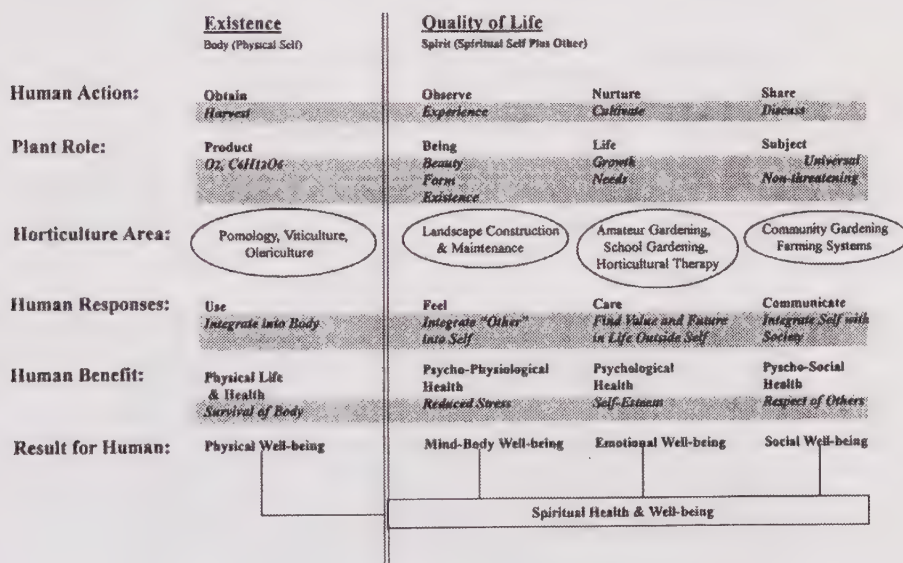


Figure 5a. This model by Relf (1999) addresses the larger picture of the role of horticulture in human existence and life quality

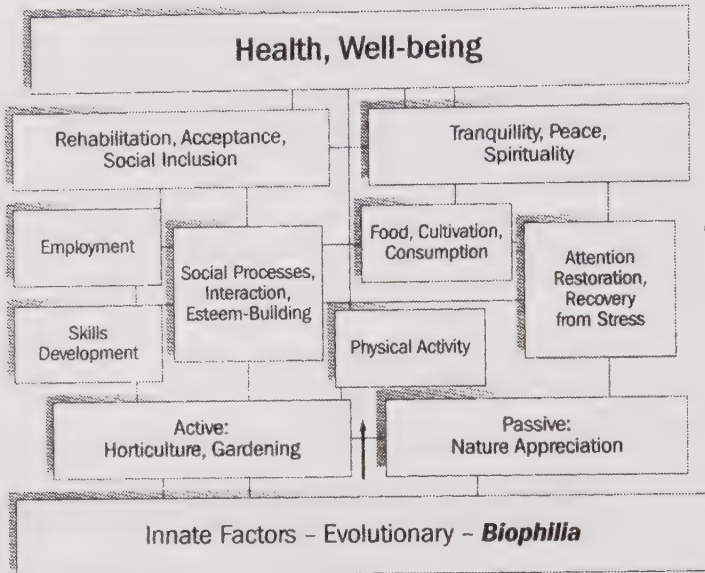


Figure 5b. Model from Sempik et al. (2003)

Adapting models from other disciplines

Ultimately the most fruitful approach to developing useful models may prove to be the study and adaptation of models from other disciplines that have been tested in research and program implementation. The ‘Model For Healthy Aging With Horticulture’ by Shoemaker and Mu-chuan Lin (2004) given in Figure 6 is based on the model for recreational therapy developed by Austin (1998). The discussion in the paper *Horticulture Therapy for Persons with Dementia: Utilizing an Environmental Press Perspective to Integrate Theory and Research* provides an excellent argument for the application of Lawton’s model (Lawton and Nahemow 1973) to research with this specific population (see Figure 7), and serves as a model for grounding work in HT in the basic theories of the disciplines, such as gerontology, in which the research and applications are to be utilized (Gigliotti et al. 2003).

The challenge presented by this approach is the integration of divergent theoretical models into a coherent whole for the profession of HT. The tendency it may be for each researcher to select a relevant theory from another discipline that is specifically related to the question being addressed, adapt that theory to the question, and proceed as though the research will contribute to a unified body of knowledge in HT. In fact without linking the theories to the overall understanding of HT each research effort, even when grounded in theory for other professions, becomes one more random block of information in an amorphous realm of endeavour.

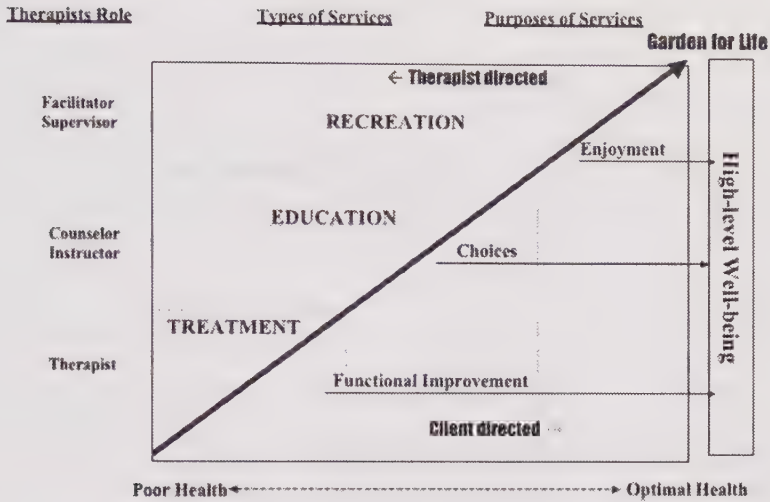


Figure 6. Model developed by Shoemaker and Mu-chuan Lin, Dept. of Horticulture, Forestry and Recreation, Kansas State University (2004), based on the model from Austin (1998), demonstrating the value of this approach

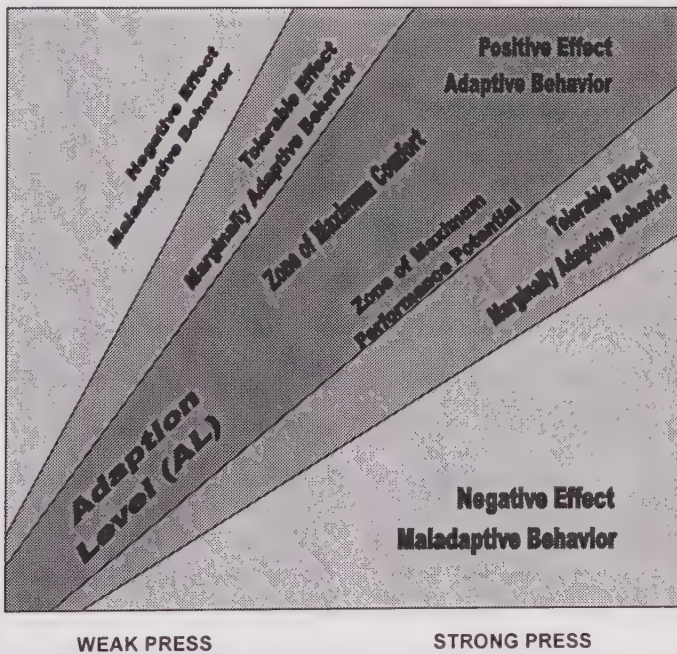


Figure 7. Environmental Press Model adapted from Lawton and Mahemow (1973), modified from the illustration used by Gigliotti et al. (2003)

CONCLUSION

As Frumkin (2004) points out, “.... all of us, on the health sciences side and on the horticulture side, need to collaborate in our research, to bring our respective skill sets to the table and to generate the most valid research results as rigorous research results emerge, they need to be published in high quality health science journals. Again, I do not for a moment mean to disparage the professional publications of horticulture, landscape architecture, and allied fields. But if we generate important health information, it needs to breach the disciplinary walls, and penetrate the world of those who make health decisions, set health policy, and treat patients”.

Based on the experiences discussed relevant to HT, I would recommend that this group seek to accomplish the following:

- Include equal numbers of committed professionals from the health-care arena in all strategic planning and implementation.
- Develop shared terminology with agreed-on definitions.
- Seek a unifying model for research and program development.
- Identify a core set of journals to publish research articles in and a core set for program design articles. Until many different articles are seen “those who make health decisions, set health policy, and treat patients” practice in this field will remain a novelty.
- Build a strong and stable foundation on which to grow.

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CHAPTER 2

CONTRIBUTIONS OF NATURAL ELEMENTS AND AREAS IN RESIDENTIAL ENVIRONMENTS TO HUMAN HEALTH AND WELL-BEING

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Abstract. This paper gives a brief overview of the research literature on the effects of nature and green space on human health and well-being, with special attention to green areas in residential environments. A preliminary descriptive framework is presented and used to delineate the focus of the paper. The review of the studies is organized by the mechanisms that are supposed to explain the positive effect of nature on health. Seven of such mechanisms are distinguished. Although the evidence is mounting, the main conclusion is that the research on nature and human health is still in its early stages. The results thus far do not offer much support for evidence-based policy making nor can they be translated into practical guidelines yet.

Keywords: green space; nature; living environment; mechanisms; residential preferences; evidence-based policy-making

BACKGROUND

Globally more and more people live in an increasingly urbanizing environment. Almost by definition this implies that their contacts and interactions with natural environments and elements decrease. At the same time, many people feel that such contacts and interactions are beneficial: they perceive them as enriching their lives and/or promoting their well-being (cf. Staats et al. 2003). If these people are right, then the urbanization of human habitats may have negative side-effects that seem not to be taken fully into account thus far. For example, within The Netherlands nature management and public health tend to be quite separate policy domains. The same holds for spatial planning and public health. As far as natural elements and areas are explicitly included in Dutch policy making for other domains, for example in the case of public housing, this tends to be in terms of beautification and offering attractive leisure settings. In other words: natural areas and elements are looked upon more as a luxury than as a necessity. But is this neglect of green spaces for health purposes justified? This paper focuses on what is known about the relationship between natural elements and areas on the one hand and human health

and well-being on the other hand. It does so from a scientific perspective. We shall not focus on philosophies or ways that people *think* the world works (or should work) but on outcomes of well documented studies in this subject area. First a preliminary theoretical framework will be presented that delimits and structures this brief overview.

THEORETICAL FRAMEWORK

At this point we will sketch a very global and descriptive framework for the relationships between natural elements and areas on the one hand and human health, well-being and quality of life on the other hand. More process-oriented models will be given later on, exemplifying different mechanisms by which nature may influence health and quality of life. The descriptive framework will distinguish several topics within the research area and position them in their mutual relationship. We use the International Classification of Functioning, Disability and Health (ICF) as published by the World Health Organisation (WHO) as our starting point. Especially the ICF's subsection on environmental factors is used. The ICF classification fits our purposes well, in that this subsection contains a category 'natural environment and human-made changes to environment' (e200 – e299). This comprises:

“... animate and inanimate elements of the natural or physical environment, and components of that environment that have been modified by people, as well as characteristics of human populations within that environment”.

We focus exclusively on this category. Its subcategories are:

- Physical geography (e210)
- Population (e215)
- Flora and fauna (e220)
- Climate (e225)
- Natural events (e230)
- Human-caused events (e235)
- Light (e240)
- Time-related changes (e245)
- Sound (e250)
- Vibration (e255)
- Air quality (e260)
- Natural environment and human-made changes to environment, other specified (e298)
- Natural environment and human-made changes to environment, unspecified (e299)

There are also many subcategories that still fall outside the scope of this paper. Our focus is on the effects of natural areas and elements on the cognitive, emotional, behavioural and social functioning of people, to the neglect of the physical aspect. For example, we shall not deal with the effects of air quality on physical well-being. To put it differently, we will focus on effects of perceiving and interacting with

natural environments and elements. The paper is written from a social-science perspective, more than from the biological or life-science perspective.

An environmental factor may have different effects, at different levels: some physiological and others more social. Therefore it is not possible to assign all of the above subcategories as uniquely affecting either the physiological or the social functioning of human beings. Also, sometimes it may be hard to tell by which mechanism the environment affects people's health (most). However, we will zoom in on the 'social' effects of physical geography (e210) and flora and fauna (e220).

Now that the theme of this paper has been delineated, we zoom in on the distinctions we would like to make within this domain. The first one is the type of contact that people may have with natural environments and elements. We distinguish mainly perceiving and experiencing the natural *environment* from interacting or working with natural *elements*, such as plants and animals. The assumption is that one does not interact with the environment as a whole, but rather with specific elements within this environment (or a natural element within an otherwise non-natural environment). We will speak of experiencing the environment when there is no purposeful interaction with a natural element, even if this environment consists of a single natural element such as a solitary tree. In this paper we will focus on perceiving and experiencing natural environments. Furthermore, we will concern ourselves mainly with the outdoor environments. The paper by Elings will focus more on interacting and working with natural elements.

A second distinction deals with the social context in which the contact takes place. We will mainly focus on the residential context, rather than on, e.g., a therapeutic or health-care context. This also more or less implies that, with regard to type of effect, we will be focusing on preventative effects and those that enhance well-being or, even more general, quality of life. So we will pay little attention to, e.g., curative effects, and even less to possible pathogenic effects.

A final dimension is the targeted group of people. This may range from the population at large, marginalized groups, to groups with a specific disease or challenge. In our case it will be (urban) residents. So, to summarize we will give a brief overview of the research literature with a strong focus on the following dimensions:

- type of contact: perception and experience
- type of context: residential
- type of effect: preventative, enhancing quality of life
- type of people: urban residents.

And we will do so from a social-science perspective.

STATE OF THE ART ON GREEN SPACE AND HEALTH

Overview of possible mechanisms linking nature and well-being

In this chapter we will concentrate on the effects of perceiving and spending time in a green environment, including the local supply of green areas. We will not deal extensively with the explicit use of green areas in a therapeutic setting here. Recently, the Health Council of The Netherlands has made an overview of the

effects of nature on health in which empirical studies are not only described, but also evaluated regarding the strength of their conclusions (Gezondheidsraad 2004). This contribution makes extensive use of that overview.

At least three studies have shown the availability of nearby natural areas and elements to be related to human health in a real-life setting. The first one focused on the hospital environment (Ulrich 1984). The other, more recent studies focused on the residential environment (De Vries et al. 2003, Takano et al. 2002). De Vries et al. (2003) show a relationship between the local amount of green space and self-reported health at a national level. This relationship persists after controlling for socio-demographic characteristics known to affect health. Takano et al. (2002) show a relationship between the (self-reported) availability of green walking spaces and longevity of elderly inhabitants of Tokyo in their longitudinal study. However, all three studies, especially those on the residential environment, do not prove convincingly that the availability of natural areas or elements was instrumental in the observed relationship. Furthermore, the studies offer little insight into the mechanism(s) behind such an instrumental relationship.

In the literature, several mechanisms by which natural environments may affect human health and well-being are mentioned, often also focussing on different aspects of health and well-being. Most often suggested, besides the physical quality of the environment (e.g. air quality), and selected by the Health Council of The Netherlands to be described in more detail are:

- reduction of stress and restoration of attentional fatigue
- promoting (more) physical activity
- enhancing positive social contacts with neighbourhood members
- healthy development of children
- personal growth of adults/enhancing quality of life.

We will first briefly describe the research on each of these five mechanisms separately, following to a large extent the overview of the Health Council of The Netherlands (Gezondheidsraad 2004).

Stress reduction and attention restoration

The two most important theories on the influence of nature on stress reduction and attention fatigue are Ulrich's psycho-evolutionary theory on stress reduction (1983) and the attention-restoration theory (ART) of Kaplan and Kaplan (1989). Hartig et al. (1996) suggest that both outcomes are quite likely to be strongly related. Following this suggestion, the Health Council of The Netherlands also considers one mechanism to be operational and concludes that it is the one that is best supported by the empirical evidence (p. 60-62). Nineteen studies of sufficient methodological quality have been identified. In these predominantly experimental studies, most of the times subjects were first presented with a stressful event or task, and then viewed or experienced as either (an illustration of) a natural environment or an urban/built-up environment. Stress levels tend to be lower and the capability to concentrate higher when confronted with (the illustration of) a natural environment.

Stimulating physical activity

The importance of sufficient physical activity on mental and especially physical health has been well documented (U.S. Department of Health and Human Services 1996). Furthermore it is well known that most people prefer a natural, green setting for such leisure activities as walking and cycling (see, e.g. Herzog 1992). This makes it reasonable to suggest that an attractive nearby green environment may stimulate physical activity in the form of participating in such recreational activities more often or longer (Owen et al. 2000, see also; Pikora et al. 2003). However, empirical research that corroborates this influence of nearby nature is hardly available. Two studies evaluating specific programmes suggest that when a (semi-) organized activity takes place in a group setting and a natural environment, this makes people more motivated to stay active in this way. One of the evaluated activities is walking for pleasure (Reynolds 2002a), and the other consists of voluntary nature management activities (Reynolds 2002b). However, both studies do not preclude that other factors than the natural environment are responsible for this heightened motivation, for example the social setting. Other studies have clearly shown that people with more green space nearby, or green space nearer to home (De Vries 2002; Grahn and Stigsdotter 2003) visit green areas more often and/or spend more of their leisure time within a green area. However, more visits to/more time in a green environment does not necessarily imply more physical exercise in the form of leisure activity. People may not be that active within the green area, or in case of a less abundant supply of green areas, they may be as active, but in a non-green environment.

Enhancing positive social contacts

Positive social contacts by themselves may already be considered to enhance one's quality of life. But there are also indications that people with more positive social contacts feel healthier, have a lowered probability of getting cardiovascular diseases (CVDs), and tend to live longer (Berkman et al. 2000). Especially for the elderly, a lower level of loneliness has been shown to coincide with a lower probability of mortality, depression and loss of cognitive functions (Penninx et al. 1997). So, if green areas do stimulate such contacts, it is also along this route that they may have beneficial effects. However, empirical research on this issue is quite scarce. Of the few available studies, the most well-known have been conducted by the Chicago-based research group of Kuo and Sullivan (Kuo et al. 1998; Kweon et al. 1998). They both studied the effect of nearby green space on social ties within the neighbourhood. Although the results of these studies offer some support for this mechanism, it is a rather small empirical basis, also because both studies focused on inhabitants of the same social housing project (Robert Taylor Homes).

Healthy development of children

Based on an extensive overview of the literature, Gebhard (1994) argues that the availability of adventurous natural settings that may be freely explored is important

for especially the socio-emotional development of children. According to Cornell et al. (2001), free exploration of the environment is also important for the cognitive development of children. Furthermore, outdoor play has also been argued to be important for the motor development (Karsten et al. 2001). However, most of the research on which these arguments are based is either descriptive of qualitative in nature, not permitting strong conclusions on causal relationships. Moreover, only a few studies focussed explicitly on the naturalness of the setting, see e.g. Faber Taylor et al. (1998) and Wells and Evans (2003). Consequently, it is not clear what the importance of the *naturalness* of the adventurous environment to be freely explored actually is.

Personal growth/enhancing quality of life

Spiritual well-being is not only a goal in itself, but also has been shown to be related to mental, physical and social well-being (see, e.g. Heintzman 1999). Several studies suggest that the process of reflection and developing a sense of purpose, which is thought to be important for spiritual well-being, is facilitated by a natural setting (see e.g. Frederickson and Anderson 1999). Based on the results of studies on wilderness experiences, Fox (1999) proposes the 'Spiritual Experience Process Funnel'. According to this model, when people start to feel relaxed during a wilderness trip and more autonomous and competent, they also open up to the beauty and symbolic meaning of nature, and become more inclined to reflection and sense of purpose. The symbolic meaning of nature does not seem to be limited to wilderness areas: according to Chenoweth and Gobster (1990), also urban nature (trees, allotment gardens, water surfaces etc.) may act as a symbol. However, the Health Council of The Netherlands states that most of this research is either descriptive or correlational, or otherwise does not allow for strong conclusions (self-selection, lack of control group). Alternative explanations, such as social contact and (vigorous) physical activity, cannot be precluded.

Other possible mechanisms and aspects

The five mechanisms and/or aspects that are distinguished by the Health Council of The Netherlands are not the only ones that can be found in the literature. We will briefly discuss two additional ones. A relatively new aspect is the effect of a natural setting on aggression. Although in the public opinion urban greenery is more often associated with socially unsafe environments, there are a few studies that suggest that in some cases a green environment may help to reduce aggression and crime rates (Kuo and Sullivan 2001b; 2001a). The mechanism behind this relationship is still fairly unclear. It may be strongly related to the mechanism for stress and fatigue reduction mentioned earlier, and/or be a consequence of stronger social ties with the neighbourhood, leading to more social control or an otherwise less inviting environment for displaying aggressive and/or criminal behaviour. The other way around it goes without saying that less aggression and crime within the neighbourhood will enhance the quality of life.

With regard to quality of life, it is also well-known that most people prefer to live in a neighbourhood with a fair amount of green space. However, the supply of houses in such neighbourhoods is often less than the demand for them, thereby raising prices and making them less affordable. As a consequence many people live in a neighbourhood that does not match their preferred environment (De Vries 2001). It is still unclear whether this incongruence also has negative effects on health and well-being, besides its impact on the quality of life. However, it is not unlikely that people that can afford to do so will move to more attractive neighbourhoods, leaving a relatively poor segment of the population behind. Recently conducted analyses showed that, within the more urban residential environments, the local availability of opportunities for recreational walking and cycling in a green environment was related to the composition of the population (De Vries and Van Zoest 2004). Low availability of recreational opportunities, in relation to the demand for such opportunities, coincided with a stronger presence of non-western ethnic minorities, usually not the wealthiest segment of the population.

Interactions between mechanisms

By presenting each of the mechanisms separately, it may appear that they are quite unrelated. However, 'between the lines' some suggestions have already been made that in daily life several mechanisms and aspects are often interrelated. While stress and mental-fatigue reduction has been shown to occur independently of the other mechanisms and aspects, this reduction may be enhanced by positive social contacts taking place while spending time in a green area. Likewise, the fact that people select a nearby green area to perform a leisure activity may lead to them spending more time in this type of environment than they otherwise would have done. Apart from the beneficial effects of the possibly larger amount of physical activity, the larger amount of time spent in a green environment may have beneficial effects by itself. The possible relation between aggression reduction and other mechanisms has already been mentioned above.

FROM RESEARCH TO EVIDENCE-BASED POLICIES AND PRACTICAL GUIDELINES

The interrelations mentioned above make it difficult to assess the contribution and relative strength of the different mechanisms in a field setting. On the other hand, experimental studies are usually only able to show the existence of a process because it produces immediate but short-term effects. The impact of the green environment in the long run, in a daily environment cannot be established in this way. For all practical purposes many of such issues may remain academic: if it works, it works. However, this point of view becomes problematic when a) considerable costs are involved, and b) changes in (the use of) the environment are only a part of the package or treatment. In those cases one would like to know what the contribution of the natural setting is. When new green areas are created at substantial costs and preclude other types of land use, this is likely to be a choice

that has to be argued convincingly. And also the importance of the continued existence of already available green areas is likely to require a solid empirical basis, especially in (urban) regions in which land is scarce. A second but related reason for research into the operating mechanisms, their relative contributions and preconditions, is that knowledge about these mechanisms may make it possible to plan and (re)design green space more efficiently with regard to its contribution towards health and well-being. The next paragraph elaborates on these issues.

Relevant characteristics of the natural environment

Up to now relatively little attention has been paid to the preconditions under which the proposed mechanisms will operate or will work best. In general the research seems to be in its early stages, mainly focusing on showing that effects and/or relationships do exist. For example, in experimental studies often crude distinctions between natural and non-natural environments are used. Nevertheless, some of these mechanisms/aspects seem to be linked to a specific type of natural environment. For example, personal growth seems an outcome that is frequently mentioned in connection with wilderness experiences and/or survival activities in a natural setting. However, these types of links often remain implicit in the sense that little is known about the preconditions the natural environment has to fulfil in order to result in or maximize the desired health effect. What follows is a list of possible relevant characteristics (drawn up with a residential context in mind):

- amount of green space, in square metres, within a certain distance
- spatial structure of the green space: its distribution over the city or neighbourhood, composition in terms of surfaces and linear structures
- type of green space: wilderness, forest, park, cultivated land, etc.
- design and management of specific green areas, including accessibility, infrastructure, amenities, facilities, level of maintenance/grooming, security measures
- type and number of other users of the area (in relation to amount of green space).

The relative importance of these characteristics may vary from mechanism to mechanism. For example, for physical (leisure) activities to take place within the green area, its 'technical' suitability as a place to perform certain activities will be a significant factor (infrastructure and facilities for specific activities). One of the interesting issues that have not been resolved yet, is the importance of the perceived beauty of the natural area as a mediating factor. Since this perception may differ from person to person, this brings us to another aspect: the segment of the population for which a mechanism may be (most) beneficial. Once again, almost no studies are available in which the effect of a certain natural setting on different groups is systematically compared. At a spatial micro-level, however, it seems reasonable to expect that the stress-reducing effect of greenery is most needed in stressful situations. It is not a coincidence that the few field experiments tend to concentrate on such situations: hospital environment, prison, dentist's waiting room. But this is more a matter of context than of individual differences.

CONCLUSIONS

- Several possible mechanisms linking green environments to human health and well-being have been identified in the literature.
- Usually the empirical support for the mechanisms is still rather weak, with the exception of stress reduction and attention restoration.
- Little is known about the size of health effects in a real-life setting, about the relative contribution of the different mechanisms, about the preconditions under which each mechanism operates best, and about for which subgroup of the population it does so.
- As a result, practical guidelines for policymakers, spatial planners, landscape architects, health practitioners, if available at all, are seldom evidence-based.

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CHAPTER 3

EFFECTS OF INTERACTIONS BETWEEN HUMANS AND DOMESTICATED ANIMALS

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Abstract. Humans have many kinds of relationships with domesticated animals. To maintain relationships interactions are needed. Interactions with animals may be beneficial for humans but may also be risky. Scientific literature on effects of human–animal relationships and interactions in a workplace, health-care and residential context has been reviewed to develop ideas about the effects farm animals can have on humans. Although there are quite a few studies, the variety of methods, the complexity of the material, differences in research goals and variable quality of the studies make that no general conclusions about the effect of animals on humans can be drawn. Nevertheless, when interactions with animals affect people, it may be expected that this will be similar for pets and farm animals.

Keywords: human–animal interactions; domesticated animals; farm animals

HUMAN–ANIMAL INTERACTIONS AND RELATIONSHIPS

Introduction

Human–animal relationship is an example of interspecies relationship (Odendaal 2000). Most relationships that people maintain with animals are with domesticated animals. Domestication is the process by which a population of animals becomes adapted to man and to the captive environment by some combination of genetic changes occurring over generations and by environmentally induced developmental events reoccurring during each generation (Price 1984). Domesticated animals have many functions in human societies. They are used for food and clothing production, for transportation and draught power, for religion, for sport, amusement, recreation and betting, for warfare, hunting, tracing and protection, for assisting disabled, shepherds and lumberman, for obtaining social status and social support, for nature conservation and for research. In all functions, different relationships are maintained and different types of interactions will appear.

Interactions are needed to start and maintain a relationship between two individuals. An interaction means that both individuals affect each other. In human–animal interactions, it is therefore important to keep in mind that both human and animal are active and reactive during an interaction, independent of who is the

initiator. The chance that a human and an animal have a different perception of an interaction is considerable. What a human may experience as a pleasant interaction, may be an unpleasant experience for an animal. Furthermore, it is known that animals prefer species companion rather than human closeness (Raussi 2003). There are many types of interactions. An interaction can be gently and friendly, or aggressive and unfriendly. It can be non-tactile by observing each other or by vocalizing to each other. It can also be tactile by touching each other.

The type of relationship between humans and animals is continuously subject to changes and is very context-dependent. In western societies, for example, the relationship with farm animals has been extensified during the last 60 years (Stricklin 2001), while the relationship with companion animals has been intensified (Archer 1997). Remarkably enough the consumption of products of animal origin increased dramatically during this period (Roeningk 1999; Smil 2002). It seems that people have developed a detached attitude towards farm animals while an increasing anthropomorphic attitude has been developed for companion animals (Archer 1997; Driscoll 1995; Serpell 2000). This inconsistent attitude is even more complicated when realizing that one species can be a farm animal as well as a companion animal. Besides personality traits and attitude in human beings (Archer 1997; Hemsworth and Coleman 1998; Hills 1993; Serpell 1999a; 1999c), the economic and social context determines the kind of relationship with animals. Furthermore, the influence of the media on the attitude to animals should not be underestimated (F. Brom, personal communication). Animals in commercials, for example, increase the sales, and many nature-conservation groups use an animal as an icon for what they stand for.

Interactions with animals are supposed to teach responsibility, encourage a caring attitude and behaviour, and provide companion, social support, security, comfort, amusement or an outlet for affection (Enders-Slegers 2000; Serpell 1999b). They may promote respect, self-esteem and compassion for animals and nature in general, and learn about the facts of life (Serpell 1999b; Blackshaw 1996). Levinson (1969) was one of the first who described that emotionally disturbed children, who experienced difficulties in their relationships with people, relate more easily or quickly to animals. He suggested that the primary reason was the animals' ability to offer the child non-threatening, non-judgmental and essentially unconditional attention and affection.

Interactions with animals also include potential hazards to humans. In an extensive review, Plaut et al. (1996) divided these hazards into three categories: infectious diseases associated with animals; (b) immunologic responsiveness to (a) animals; and (c) injuries due to physical interactions with animals. Infectious diseases that animals can transmit to people are called zoonoses. Humans are infected either by direct contact with animals (e.g. skin, saliva, urine, faeces) or by indirect contact (water, food that has been contaminated with infectious secretions of an animal) (Plaut et al. 1996). Infectious diseases include bacterial, fungal, parasitic and viral diseases (Geffray 1999; Robertson et al. 2000; Plaut et al. 1996). They may vary from mild to fatal. Immunologic responsiveness to animals results in allergic disease, asthma and/or hypersensitivity pneumonitis (Ahlbom et al. 1998; Plaut et al. 1996). Most animal-allergic individuals react to many other allergens (Plaut et al.

1996). Cats cause the greatest part of the animal-related allergic reactions. In the USA, for example, approximately 3% of the population are allergic to cat allergens (Plaut et al. 1996). Physical interactions with animals can cause tissue damage through, e.g., biting and scratching and may induce infections (Abu-Zidan and Rao 2003; Björnstig et al. 1991). In the USA, there are an estimated 1.5 million dog bites and 400,000 cat bites that receive medical attention each year (Plaut et al. 1996). Bites are suggested to be greatly underreported because approximately only 10% of the injuries receive medical attention (Guy et al. 2001; Plaut et al. 1996). Dogs caused half of the animal-induced injuries that were treated in a Swedish hospital, while horses caused one-third of the injuries and the highest number of fractures (Björnstig et al. 1991). A New Zealand study associated many more animal-related injuries with horses (86%) and only 10% to dogs in an urban population. Fall from a horse was the most common cause (67%) of horse-related injuries (Abu-Zidan and Rao 2003).

In summary, humans and animals can have a relationship that must be maintained with interactions. The type of interaction and relationship is context-dependent and may be beneficial or hazardous for humans. The next paragraphs review scientific literature in the field of human-animal relationships and interactions. It will focus on the effects of interactions with domesticated animals on humans in a workplace, health-care and residential context. The last paragraph describes the chances and risks of farming for health and how interactions with farm animals can affect humans.

Workplace context

In several professions, people work with animals. The group of people working on a farm however, further called farmers, is probably the largest group of humans that work with animals in a professional way. Although a farmer may have an emotional relationship with his animals, this relationship will always have a business-like character. After all, the farmer has to earn his income from his farm animals. A positive attitude towards the animals may, therefore, be expected, because a farmer is economically dependent on his animals. Nevertheless, research showed that a positive attitude is not always the case and improvements can be made. Understanding the behaviour of a farmer appears to be the key to manipulate human-animal interactions for improving the farmer's attitude and motivation regarding the job (Hemsworth and Coleman 1998). Giving courses to farmers was the next step of these researchers. Cognitive-behavioural modification techniques were used to retrain farmers in terms of their behaviour, as well as changing their attitudes and beliefs. Training is likely not only to influence the skills and knowledge base of the farmer, but also to improve the self-esteem, job satisfaction, commitment and work motivation of the farmer with possible advantages to work performance and prospects (Hemsworth 2003; Hemsworth and Coleman 1998). Farmers who have been trained are also more likely to remain in the job (Coleman et al. 2000), indicating that these people find more satisfaction in their job. Furthermore, women seem to be more capable of empathy (Hills 1993) and are more

positive in their behaviour to cattle (Lensink et al. 2000). So far, no studies have been found on people working with animals in other professions, but it seems quite reasonable that results found by Hemsworth and co-workers can be applied to all animal-related professions.

Health-care context

In 1991, Allen et al. (1991) stated that in terms of therapeutic benefits of interactions with animals, there is still relatively little evidence of a positive effect. It has been shown, however, that the use of animals as icebreakers in psychotherapy and the use of animal helpers for persons with physical disabilities are successful. In a health-care context, animals are mainly used in so-called animal-assisted therapy (AAT) programmes. An AAT programme implies that the person receiving the animal's attention is challenged physically or mentally and can benefit from animal companionship (Fine 2000). There are many AAT programmes all over the world. They mainly use dogs, dolphins and horses.

Since 1991, there have been a few more papers published on the therapeutic use of animals. In a two-year study by Crowley-Robinson et al. (1996), six different dimensions of mood states were checked over six AAT assessment periods for elderly in three nursing homes to measure the effect of a resident dog, a visiting dog with a researcher (once a week) or a visiting researcher (only during the assessment). Although they concluded that a resident dog has significant positive effects on several dimensions of mood, similar significant effects were found for the two other treatments. Furthermore, no details are given about type and frequency of interactions between clients and dog and clients and researcher. Since data were not analysed at individual level, it is not clear whose mood had improved. In another AAT study with dogs, three groups of 15 elderly were exposed to either no AAT with a dog, one 30-minute AAT session with a dog per week or three 30-minute AAT sessions with a dog per week during 6 weeks (Banks and Banks 2002). They analysed the data at individual level and found that AAT significantly reduces loneliness of the elderly. One or three sessions of AAT per week made no difference (Banks and Banks 2002). The elderly that chose to participate in AAT had pets earlier in life, while eight residents who chose not to participate in the study had no pets before. This shows that in research on therapeutic effects of animals previous experience is an important factor. In a third paper, Kaiser et al. (2002) present a small sample study. They found no difference in behaviour and preference in elderly living in a nursing home who were visited by both a happy visitor and a dog.

Although dolphins cannot be characterized as domesticated, they are used as well in AAT programmes. Very few investigations have been conducted to study the effects of therapy with dolphins. Nevertheless, therapeutic swimming with dolphins is a fast-growing business all over the world. Only one study found some indications that therapy with a dolphin helped to improve cognitive functions in some children with disabilities (Nathanson and De Faria 1992). Although they tried to separate the factors, it is difficult to accept from this small-size study that it was the interaction with dolphins instead of the water environment that provided the progression in

these children. The ultrasound produced by dolphins, one of the supposed therapeutic aspects of swimming with dolphins, can be excluded as a healing factor (Brensing et al. 2003).

Another widespread phenomenon is therapeutic horseback riding (Fitzpatrick and Tebay 1998). Although there appear to be regular international conferences on therapeutic horseback riding (Fitzpatrick and Tebay 1998), few studies have been conducted or have been published in scientific journals. One paper showed that a ten-week therapeutic horseback-riding programme (riding twice weekly for one hour) improved the posture in eight out of eleven children with cerebral palsy (Bertoti 1988). Cawley et al. (Cawley et al. 1994), however, did not find any benefits from an eight-week therapeutic horseback-riding programme on self-concept in adolescents with special educational needs.

Residential context

Animals kept in residential context are often called pets. Pet ownership is, and has been, widespread in many different cultures and societies (Archer 1997; Serpell 1999a). The most common reason for pet ownership in western societies is companionship (Robinson 1995). Pets evoke parental feelings in humans. Warm-blooded and furry animals are preferred (Archer 1997). However, there are more factors, such as size and intelligence preference, that determine the final choice of a pet. Different pet owners can be distinguished such as sole owners and shared owners. The latter are, for example, members of the household or people simply living in the same household as the owner (Budge et al. 1998). Although all animals kept for companion are pets, most research on human-animal interaction involving pets has been conducted with dogs.

Pet owners were found to be alive more likely one year after discharge from a coronary-care unit than non-owners (94% vs. 72%) (Friedmann et al. 1980). They did not find a difference in survival rate between pet owners and non-pet owners in a second study (Friedmann and Thomas 1995). Dog owners were, however, more likely to be alive after one year than non-dog owners (Friedmann and Thomas 1995). In both studies, the association of pet ownership or dog-ownership with survival could not be explained by differences in the severity of heart disease, psychological or social status or demographic characteristics between patients. They suggested that maintaining a relation with pets, and probably animals in general, might protect people from developing coronary heart disease or slow its progression. It seems that animals give the ability to modify lifestyle and thus enhance health and quality of life (Friedmann 1995). Odendaal (2000) found that both species, dog and human, showed the same physiological effects, based on blood pressure and neurochemicals, which may be linked to a feeling of well-being.

Cross-sectional studies about cardiovascular health and pet ownership gave contradictory results. No evidence was found that pet ownership can be associated with cardiovascular health benefits in two age groups (40-44 and 60-64 years of age) of randomly selected participants from the Australian Capital Territory region (Parslow and Jorm 2003b). Another analysis on the data of the 40-44 years group

also showed no benefit of pet owning or pet caring on mental or physical health (Parslow and Jorm 2003b). An earlier Australian cross-sectional study reported that pet owners have a lower systolic blood pressure than non-pet owners (Anderson et al. 1992). A lower blood pressure may be interpreted as beneficial for the prevention of heart diseases. A longitudinal study on a German and an Australian data set showed that people who had continuously owned a pet for 5 years reported the fewest doctor visits in the three months before the interview (Heady et al. 2002; 2004). In the analyses of these studies, no distinction was made with regard to the type of pet. In addition, there were no arguments given why a period of only three months was chosen to report doctor visits while giving results per year. In another study, new pet owners (dog or cat versus no dog or cat) showed a reduction in minor health problems during the first month following pet acquisition, and this effect was sustained in dog owners throughout 10 months (Serpell 1991). He concluded that acquiring new pets may have positive effects on human health and behaviour, and that in some cases these effects are relatively long-term. Since exercising has been recognized as beneficial to health, more walking by dog owners would be likely to have positive long-term health implications (Serpell 1991). Parslow and Jorm (2003a) cited two investigations conducted in the USA that show some better physical health and more physical activity in elderly people owning pets. In an Australian study it was found, however, that dog owners were not inclined to walk more hours per week than non-owners (Bauman et al. 2001).

Straede and Gates (1993) found that cat owners had a lower level of psychiatric disturbance than non-pet owners. For most measurements, however, the groups did not differ. Unfortunately, a number of demographic factors are missing and they did not make the comparison with non-cat owners. People (21-79 years old) who think they are fitting relatively well with their pets reported better mental health and fewer physical symptoms. Social support and pet attachment were positively associated with mental health but negatively with physical health (Budge et al. 1998).

Stress-reducing effects of dog presence have been found for adults (Allen et al. 1991), elderly (Siegel 1990) and children (Friedmann et al. 1983). The presence of an animal facilitates human social approach and interactions with other humans, which can be beneficial for human health (Melson 2002; Parslow and Jorm 2003a). Mugford and M'Comisky (1975, cited in Banks and Banks 2002) reported social and psychological improvements in bird-owning elderly compared to plant owners and elderly with no treatment over a 5-month period. Their results were, however, based on very small sample sizes and doubtful statistical analysis (Serpell 1991).

CONCLUSIONS

Human-animal interactions

The multi-disciplinary character of research on human-animal interactions makes that many different concepts, methods and instruments are used. Furthermore, researchers with different backgrounds use a different terminology, which can cause communication problems. It is clear that a lot of work has to be done, especially empirical research, to understand the long-term effects of human-animal

interactions. The number of research papers is relatively high but quality and research results vary considerably. Garrity and Stallones (1998) described this already in their review based on 25 scientific papers written between 1990 and 1995. They concluded that quality-of-life benefits of an association between pet and human are apparent only under certain conditions. Benefits occur on the psychological, physical, social and behavioural levels. In relation to pet support and well-being Garrity and Stallones (1998) found that 16 of the 25 papers reported at least some advantage of having contact with companion animals, but they also found that 11 of the 25 studies reported no advantage of having contact with companion animals.

From a medical point of view, a major disadvantage of studies on human–animal interactions or relationships is that it is impossible to conduct experiments with double-blind and placebo-controlled trials. People voluntarily acquire animals and agree to participate in research. It is possible that people who are healthy and happy tend to acquire pets, rather than that having a pet causes better health. Another problem is that there are few papers from public-health or medical professionals outside the immediate narrow confines of the field itself. Mostly, the people who cite papers belong to the same group of researchers who have long been interested in the issue. In other words, citation records tend to be circular and internal to the group. In addition, most studies are performed on small sample sizes and are relatively superficial. Fine (2000) attributed this to the fact that there is limited funding support for studies in the field. So far, there is little unambiguous evidence for positive effects of human–animal interactions. Some suspicion is therefore necessary when seeing the many health claims on, for example, AAT websites.

Farming for health

Having reviewed the scientific work on human–animal interactions and relationships, I would like to stress the potential effects farm animals could have on humans. ‘Potential’ because there is much unknown about the effects farm animals could have on humans. Zasloff (1996) stated that there are commonalities in the emotional experience of having a relationship with a pet. The question is, can farm animals bring about similar emotions as companion animals and will interactions with farm animals affect humans?

In Europe there is a recent tendency to use farm animals for other purposes than food production only. Farm animals are used for education, recreation, company, therapy, hobby and nature conservation. Farm animals acquire a new role in their relation to humans and the number of interactions with many different and inexperienced people is increasing. The extent to which animals actually fulfil this variety of roles is, however, still largely unknown. The one and only qualitative study with farm animals in a therapeutic role suggested some social, emotional and physical benefits for children that interact with farm animals in a residential treatment centre (Mallon 1994).

Farm animals are bigger than pets in general and seem to be less attractive to touch and have a close relationship with at first sight. Farm animals are not used to

be in close contact with humans besides the farmer, his family and his employees. This implies risks for inexperienced and unfamiliar people trying to interact with these farm animals. Farm animals prefer to keep a distance to unfamiliar persons (Waiblinger et al. 2003). Inexperienced people do not know how to react to an animal and do not know how an animal reacts to their presence and behaviour. Unfamiliar people may have experience with (certain) animals, but the animal they would like to interact with does not know them. This may result in aggressive or unexpected behaviour of the animal. Furthermore, in several studies it is shown that even the farmer and his family are at a relatively high risk of becoming victim of an accident or attack by a farm animal (Rasmussen et al. 2000; Stallones and Beseler 2003; Bancej and Arbuckle 2000; Rautiainen and Reynolds 2002; Hendricks and Adekoya 2001; Rissanen and Taattola 2003; Gerberich et al. 2001). Allowing inexperienced and unfamiliar people to come in close contact with farm animals means that measures have to be taken to prevent accidents. These measures can include rules and safe enclosures, but also teaching people about behaviour and characteristics of different farm animals and how to handle them.

There are a large number of studies, especially in the field of farm animals, showing that human-animal interactions may result in profound behavioural and physiological changes in the animal, with consequences for the animals' behaviour, performance, health and welfare (see Hemsworth 2003 for a review). Approach and avoidance behaviour of (farm) animals are the best indicators of how animals feel about humans. The fear level of farm animals has to decrease in most cases to let them have close interactions with unfamiliar people. This will be a matter of training. Anecdotal stories illustrate, for example, that pigs or chicken can be kept as pet. Furthermore, farm animals can be stroked and people can talk to them. Thus, when interactions with animals have an effect on humans, it may be expected that this will be similar in pets and farm animals.

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CHAPTER 4

PEOPLE–PLANT INTERACTION

The physiological, psychological and sociological effects of plants on people

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Abstract: This paper reports the results of a literature study into the effects of plants on human well-being. Different studies from various countries show that there are many different settings in which humans interact with plants. Some of these settings have a therapeutic aim, others do not. This paper demonstrates that various target groups can benefit from working with plants. Little is known, however, about the mechanisms behind horticultural therapy while the evidence is weak due to the methodological limitations of the studies.

Keywords: human well-being; horticultural therapy; psychological effects of plants; physiological effects of plants; social effects of plants; horticulture and human health

INTRODUCTION

This part of the paper discusses the state of the art concerning the contribution that active human involvement with plants may make to health, well-being and quality of life. Although examples of therapeutic gardening have been reported for decades, research in this field has only started a few years ago. There has been some research, especially in the US, the UK and Japan, but most studies have methodological shortcomings and usually the papers are descriptions of different practices.

Considerable practical experience shows the possible benefits of working with plants. Fortunately, in-depth research into the effects of working with plants on human beings is increasing. In The Netherlands, the growing number of Green Care farms is a striking phenomenon. The amount of Green Care farms has grown from 75 to 430 in a period of four years (1998–2002). Clients on these farms are also working with plants.

The Health Council of The Netherlands (Gezondheidsraad 2004) also mentions an increasing interest in the contribution to human well-being of working with plants in allotment and community gardens. Against this background it seems useful to present an overall picture of the different settings in which plants are being used in interaction with people and the benefits of plants for human well-being.

First, we describe the various terminologies that are used to express working with plants in different settings, followed by a description of the settings in which humans are involved with plants. Finally, we give an overview of the available information about the benefits of plants for human well-being.

DIFFERENT TERMINOLOGY

Horticulture is used in many settings as a form of direct or indirect therapy. The scale on which horticulture is being used as a therapy differs as well. There are ‘green rooms’ for elderly in care institutes but there are also clients who work on the fields with crops on a Green Care farm. There is a broad range in which horticulture is used by people. In this paragraph we describe the different settings in which plants are being used.

We start with the difference between horticultural therapy and therapeutic horticulture. Sempik et al. (2003) describe horticultural therapy as: “the use of plants by a trained professional as a medium through which certain clinically defined goals may be met”. Sempik et al. (2003) speak of therapeutic horticulture as being “the process by which individuals may develop well-being using plants and horticulture. This is achieved by active or passive involvement” (Growth Point 1999). Sempik et al. (2003) state that horticultural therapy and therapeutic horticulture have different meanings. The first term refers to a therapy that has a predefined clinical goal similar to that found in occupational therapy, whilst therapeutic horticulture is directed towards improving the well-being of the individual in a more generalized way.

Table 1. Difference between therapy and horticulture

Therapy	Horticulture
The individual is paramount	The plants are paramount
Means: working with plants	Means: working with plants
Aim: therapy, improving quality of life	Aim: recreation and productivity
Benefits: improving health, quality of life and well-being	Benefits: vegetables, fruit and pleasure
	Side effect: improving well-being

There are, however, more settings where people work with plants than the horticultural-therapy and therapeutic-horticulture settings mentioned by Sempik et al. (2003), sometimes with a more therapeutic aim and sometimes more as a form of recreation.

The scheme below shows a refinement of the different settings into working with plants in a therapeutic, work or recreational setting; on the left the activities with plants representing a form of horticultural therapy described by Sempik et al. (2003), towards the right activities moving to a form of therapeutic horticulture.

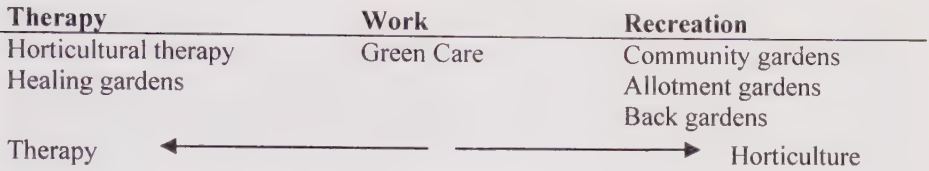


Figure 1. Division of plant activities into therapeutic, work and recreational setting

Therapeutic setting

Horticultural therapy is the use of plants by trained professionals as a medium through which certain clinically defined goals may be met (Sempik et al. 2003). This therapy can take place in a horticultural programme at a care institute or in the practice garden of a horticultural therapist.

Healing gardens are mostly designed to support healing processes and recovery of stress. They are usually situated near care institutes. Healing gardens are designed for different target groups like Alzheimer patients, children with learning disabilities and schizophrenic persons. Each target group has its own special demands regarding the design of such gardens. Working or walking in such healing gardens is a means to rehabilitate clients.

Work setting

On Green Care farms, clients do horticultural work in a farm setting. Clients are helping the farmer and his wife with the normal activities on the farm, like caring for crops on the fields. That means that clients are mostly working with plants on a larger scale. Sometimes they work in a greenhouse. Most clients are on the farm for day activity and they usually have well-defined learning goals. Work has to match the client's goals and abilities. Working on a Green Care farm means producing products with a high quality, working in real life, and to be useful as a client. Working with plants usually has a rehabilitation function. Plants are being used in a work environment.

Gardening is also being used in prison. Prisons have long used inmates as workers on their farms to produce food for use in the institution. Today, horticulture is often used as rehabilitation providing inmates skills they can use after their release.

Recreational setting

Community or allotment gardens are other forms of horticulture but their therapeutic aspect is not directly apparent. People are working alone or in groups to grow crops in their (back) garden or to plant trees or shrubs. Most people have a back garden where they nurse their plants and sometimes grow crops. These forms of working

with plants can be beneficial or therapeutic for the owners but it is not a form of direct therapy and users are usually not aware of the therapeutic effects.

Lewis (1995) mentions urban and community forestry as a form of 'gardening' in cities. Urban groups take the lead in planting and maintaining city trees. In The Netherlands there are examples of the upkeep of green facilities by communities in their own neighbourhood.

Various publications show that horticulture, in many different forms, has been used as a therapy or as an adjunct to therapy in the treatment of diseases (Sempik et al. 2003). In the next section we give a state-of-the-art of the research that has been done on the beneficial effects of working with plants.

WHAT IS KNOWN ABOUT THE GENERAL BENEFITS OF PLANTS ON WELL-BEING?

In the past, evidence of a growing awareness of the benefits of working with plants was largely anecdotal (Kidd and Brascamp 2004). Recent research findings and case studies highlight the positive social and psychical outcomes of active participation in gardening such as increased self-esteem, improved health, sense of community, accomplishment and pride (Lewis 1996). Therapists and participants in horticultural-therapy programmes usually report the same positive benefits like social integration, increase of self-confidence, self-esteem and concentration, and learning of practical skills, structure and routine (Gezondheidsraad 2004).

Unruh (2004) studied 42 men and women in Nova Scotia (Canada) and compares the meaning of gardening for people with cancer and people without cancer. He concludes that the possible meaning of gardening in daily life is diverse and dependent on individual interests, past gardening experiences and current circumstances. The study revealed that gardening can be a possible coping strategy for stressful life experiences and can be beneficial for the physical, emotional, social and spiritual well-being. Beneficial effects of allotment gardens have been attributed to various factors, including enhanced physical activities, reduced levels of stress and mental fatigue, and a better social and cultural integration (Armstrong 2000). There is some evidence that allotment gardens may promote health, well-being and social safety through three mechanisms: enhanced physical activities, reduced stress and improved social cohesion.

Although the above studies give some examples of benefits from working with plants, not only the Health Council of The Netherlands (Gezondheidsraad 2004) but also Sempik et al. (2003) conclude from desktop studies that most of the research is purely descriptive and contains no actual quantitative or qualitative data. Some of the studies have a poor design, which makes their results doubtful. They also mention the lack of long-term epidemiological research (Sempik et al. 2003). Although the amount of thorough research on this subject is limited, we shall describe some studies and outcomes in the section below¹ First, the general physical, mental and social benefits for well-being are shortly described, followed by setting out the benefits for different target groups.

Physical benefits

Different studies show that nature in general can relieve stress and mental fatigue (Kaplan and Kaplan 1989; Ulrich 1983). A green environment in general may encourage people to have physical exercise. Physical exercise can have positive effects on different health determinants and reduces the risk of different kinds of chronic diseases (Gezondheidsraad 2004). Research also suggests that physical exercise can be useful in the treatment of mental health problems like anxiety and depression (Sempik et al. 2003).

Lewis (1995) mentions a study by Owen (1994), who found that visiting a botanical garden lowers blood pressure and reduces heart rate. Studies show that the presence of vegetation will speed recovery from stress (Ulrich et al. 1991; Kaplan 1993).

Different studies into the effect of physical activity show that activities like gardening are associated with health and reduce risk factors for coronary heart disease.

Mental benefits

Different target groups experience the same mental benefits of working with plants, such as increased sense of self-esteem, awareness and responsibility, especially when working in groups (Kaiser 1976). Participation also increases feelings of value and worth (self-confidence) (Smith and Aldous 1994).

By their beauty, colours and smell, plants in gardens enhance a sense of tranquillity and enjoyment (Kaplan 1973). Leisure in green environments provides feelings of relaxation, autonomy and competition, and makes people open for reflection (Gezondheidsraad 2004). Other studies show that responsibility and control appear to slow down deterioration of the physical and mental condition of elderly (Sempik et al. 2003). In this way working with plants can give the elderly some kind of responsibility and the opportunity to make decisions.

Kaplan (1973) and Lewis (1979) mention the success when finally the plant blooms or bears fruit. This intensely personal activity rewards with feelings of peace and tranquillity. The blooming garden or window box gives proof that the gardener can bring about changes in his or her surroundings. For example, strangers who pass by will often pause to enjoy the flowering accomplishments.

Kidd and Brascamp (2004) did a study on 361 New-Zealand gardeners and found no causal relationships between gardening involvement and psychological well-being, but there were high correlations between gardening and feelings of autonomy, environmental mastery, positive relations with others, purpose in life and self-acceptance.

Kaplan (1973) also studied the benefits of gardening. The following aspects of satisfaction were observed: the garden gave the participants peacefulness, quiet and fascination. Fascination refers to aspects of gardening like working with the soil and observing the progress of the plants. This means that gardening also gives sensory, tangible and physical benefits.

Social benefits

Horticultural therapy and gardening projects stimulate group processes and this in turn appears to promote social cohesion and the development of social and communication skills (Sempik et al. 2003). Horticultural therapy in groups can thereby enhance social interaction (Seller et al. 1999). More social contacts can indirectly lead to a better health because they can reduce the sense of loneliness and the chance of dying, depression and loss of cognitive functions especially with elderly (Gezondheidsraad 2004). For instance, in The Netherlands 15% of the population have feelings of solitude. Research points out that people with more social contacts feel healthier, have less chance of getting coronary heart diseases, and live longer. With elderly it seems that less solitude reduces the risk of dying, depression and loss of cognitive functions (Penninx et al. 1997).

Lewis (1992) saw in different cities that community gardening led to revitalization of depressed, low-income neighbourhoods. In an American study in New York the researchers found that community gardening can have a positive effect on social cohesion in the neighbourhood (Armstrong 2000).

THE BENEFITS OF HORTICULTURE FOR SPECIFIC TARGET GROUPS

Horticulture and psychiatric patients

Different studies show that horticulture improves social functioning of schizophrenic patients (Prema et al. 1986). Perrins-Margalis et al. (2000) mention the importance of group dynamics. They saw that working in a group enabled the participants to draw on each other for ideas and motivation, and accomplish tasks and gain satisfaction. They also reported the importance of sensory aspects of the horticultural activities like smells, colours and handling soil for the patients (Perrins-Margalis et al. 2000). Another study recorded an improvement in the personal appearance and hygiene of patients, reduced violent outbursts, increased communication and reduced isolation (O'Reilly and Handforth 1955). In short, different studies show that the benefits of horticulture for psychiatric patients are: improved communication with others, learning practical skills/teamwork/planning, improved self-confidence and better concentration (Seller et al. 1999).

Different studies show for various target groups that especially group dynamics within horticultural therapy can have beneficial effects for patients with a psychiatric background.

Horticulture and Alzheimer patients

Research shows that horticultural involvement of Alzheimer patients or patients with other forms of dementia gives benefits like a decline of disruptive behaviour and less sleep disturbances (Cohen-Mansfield and Werner 1998; Mooney and Nicell 1992; Fabrigoule et al. 1995). Mooney and Nicell (1992) found a reduction of violent incidents and falls for patients with Alzheimer's disease in institutions with gardens in comparison with institutions without gardens. For older subjects who do

gardening the risk of dementia is reduced because of the activity that is involved (Fabrigoule et al. 1995). Healing gardens can be especially designed for Alzheimer patients. There are activities that best match the different stages of dementia.

In a Dutch study among different care institutes for elderly, green activity as a day activity in such institutes seems to contribute to the quality of life of psycho-geriatric participants (Andreoli 2003).

Studies with Alzheimer patients showed that physical exercise can improve the cognitive abilities. Specifically designed gardens can be a source of sensory stimulation for Alzheimer patients in terms of colour, smell and texture, and can stimulate emotion and positive feelings and memories.

Horticulture and people with learning disabilities

Horticultural therapy can increase the feeling of value and worth and causes people with learning disabilities to consider themselves more desirable than before, thus influencing their self-esteem in a positive way (Smith and Aldous 1994). Sempik et al. (2003) quote Sarver (1985): "agritherapy as approach has several benefits like: appreciation of beauty in the environment; social development through cooperative effort; and a willingness to accept the importance of order and structure" (Sempik et al. 2003). All above-mentioned benefits can improve the well-being of people with learning disabilities.

Horticulture and elderly

There is extensive literature describing the design of tools, techniques and gardens for older people (Sempik et al. 2003). From different studies it appears that physical activity benefits a good health and reduces risk factors for heart diseases and other illness (Caspersen et al. 1991). Mooney and Milstein (1994) asked therapeutic staff for their views on the benefits of horticulture for older people. The benefits that were mentioned include: increased orientation to place, task and seasons, increased attention span, improved or increased interactions with other residents both during and outside the gardening-programme times, reminiscence, increase or improved physical functioning, displays of initiative, increased motivation, and the opportunity to experience success and accomplishment.

Kuo et al. (1998) found in a study with older people (64-91 years old) that social integration in a community coheres positively with contact of these people with public green in the neighbourhood.

Lewis (1995) mentions that in geriatric centres plants and plant projects provide physical and psychological stimulation. A plant growing on the windowsill or in the garden gives an older adult something alive to nurture, providing anticipation for development and new leaves, shoots and flowers. Lewis (1995) notices that for these populations, who no longer need to raise children, living plants provide a substitute and offer opportunities for tomorrow in an institutional setting which otherwise might be very sterile.

Horticulture and prisoners

There are examples of gardening projects within prisons and some research has been done on this topic. Different studies show that subjects learn various skills like responsibility, social skills, problem solving and decision making (Flagler 1995). Subjects also became less hostile and experienced success, and with that built self-confidence and self-esteem (Rice and Remy 1998).

McGuinn and Relf (2001) conclude from their research with young offenders that the horticultural programme may be a tool to improve social bonding of juvenile offenders and "that the tested curriculum appeared to be effective at evoking certain changes in attitudes about personal success and individual perceptions of personal job preparedness that can lead to development of pride and a positive self image" (Sempik et al. 2003).

Horticulture and children

Children with mental health problems experience self-fulfilment, learn basic biology and develop group activities (McGinnis 1989); there is an improvement of their concentration and a decline of incidents (Nixon and Read 1998).

The Health Council of The Netherlands (Gezondheidsraad 2004) mentions the importance of activities for children. Gardens can stimulate children to be active outdoors; activity has positive effects on different health determinants, for children especially on overweight.

Horticulture and burn-out patients

Horticulture can help people with a burn-out syndrome to rehabilitate. Rehabilitation means to restore a person to the quality of life and, in many cases, the employment they had prior to the illness, injury or circumstances that damaged that quality (Sempik et al. 2003).

THE BENEFITS OF PLANTS IN A WORKING ENVIRONMENT

The benefits of working with plants outdoors has been described in the section above but plants are also being used on a small scale in offices. The benefits of plants for office workers in a working environment have been examined in different studies.

Fjeld et al. (2002) did some research into the effects of plants on the well-being and health of office workers. This research shows that there is a positive relationship between plants at the workplace and the health of the office worker. Fjeld et al. (2002) also found a decline of health problems like fatigue, headaches and complaints like dry and soar throat and dry hands when plants and daylight lamps were placed in the office. The attendance of plants seems to have a positive effect on cognitive functioning in terms of attention recovery. Even exposure to plants for a few minutes can lead to positive effects on cognitive functioning. Other research

shows a positive relationship between plants and work productivity and plants and a lower blood pressure (Lohr et al. 1996, Russell 1997).

MECHANISM BEHIND HORTICULTURAL THERAPY

The best known theories that explain the influence of nature on humans, are the Attention Restoration Theory of Kaplan and Kaplan and the psycho-evolutionary model by Ulrich. These theories explain the influence of nature on reduction of stress and mental fatigue. Both theories consider the recovery effects of nature to be evolutionary and native. We will first discuss the Attention Restoration Theory by Kaplan and Kaplan, then the psycho-evolutionary theory by Ulrich, followed by some other explanations.

Kaplan and Kaplan (1989) discovered that mental fatigue arises as a result of the effort involved in inhibiting competing influences. Their 'Attention Restoration Theory' explains that nature does not need effort to draw attention but that it stimulates involuntary attention and is therefore restorative. According to Kaplan and Kaplan contact with natural environments results in two ways in reduction of mental fatigue: a. because natural environments give opportunities to take distance of routine activities and thoughts (*being away*); b. because nature automatically drives attention without any labour (*soft fascination*) (Gezondheidsraad 2004). According to Kaplan (1992) nature has four components of restorative experience: being away, fascination, extent and compatibility. Being away refers to "the sense of escape from a part of life that is ordinarily present and not always preferred" (Sempik et al. 2003). Nature *fascinates* people, meaning that it attracts involuntary attention, which requires no effort. Nature gives you the idea that you are in a whole other world that has a meaning and is well-ordered (*extent*). *Compatibility* means that nature needs to fit the activity that you do.

Ulrich and Parsons (1992) mention the *overload* and *arousal* theory. This theory poses that in the modern world we are constantly bombarded with so much noise, movement and visual complexity that our surroundings can overwhelm our senses and lead to damaging levels of psychological and physiological excitement. Environments dominated by plants, on the other hand, are less complex and have patterns that reduce arousal and, therefore, reduce our feelings of stress.

Another theory from Ulrich and Parsons (1992), the learning-experience theory, maintains that people's responses to plants are a result of their early learning experiences or the culture in which they were raised. According to this theory, individuals who, for example, grow up in Switzerland have a more positive attitude towards landscape with mountains and trees than someone from The Netherlands. According to Ulrich, this theory also holds that modern, western cultures condition people to like nature and plants and to have negative feelings about cities. However, this theory does not take into account the similar responses to nature found among people from different geographical and cultural backgrounds, or even those from different historical periods.

The last theory mentioned by Ulrich and Parsons (1992) is the evolution theory. The evolution theory maintains that our responses to plants are a result of evolution.

Since we evolved in environments comprised primarily of plants, we have a psychological response to them. This evolutionary response is seen in an unlearned tendency to pay attention and respond positively to certain combinations of plants and other natural elements, such as water and stone.

Lewis (1995) studied the benefits of working with plants on human well-being. He linked special characteristics of working with plants to benefits and needs for human well-being. Lewis thinks self-esteem is the key success of working with plants. Self-esteem is the keystone to emotional well-being; a poor self-appraisal, among other factors, determines how one treats one's surroundings and how destructive one will be towards oneself or others. Gardeners' pride and self-esteem increase because other people in the community enjoy the plants and flowers, translated into improved feelings about the communities in which they live. People and plants are also independent, plants receive care and nurturing and gardeners find a confirmation of success in the growth of plants. Plants can therefore give people self-confidence.

Plants are effective in challenging human responses because their environment is in contrast with the social world in which we move. The garden is a safe place, a friendly setting where everyone is welcome. Plants are non-judgmental, non-threatening, and non-discriminating. According to Lewis (1996) they respond to care, not to the strengths or weaknesses of the person providing it. Our hi-tech world is unpredictable but plants have a fixed cycle and we can rely on that.

Lewis (1996) thinks that horticultural therapy is so effective because plants and people share the rhythm of life. They both evolve and change, respond to nurture and climate, and live and die. This biological link allows a patient to make an emotional investment in a plant; however, it is a safe, non-threatening investment. The commitment is one-way. Should the patient choose to withdraw, there will be no recriminations. In severely damaged patients, such a relationship can signify the first willingness to reach out to another living being. Some studies show that horticultural therapy can lead to *social inclusion* although there is no statistical evidence. Sempik et al. (2003) mention in their report the four dimensions to identify inclusion from Burchardt et al. (2002), namely: consumption, production, social interaction and political engagement. Burchardt et al. refer to social inclusion to the processes by which people are enabled to participate in these four key activities. These four dimensions of social inclusion can be the outcomes of social and therapeutic horticulture. For instance, with the dimension 'production', Burchardt means that people are engaged in a socially valuable activity. With gardening you can produce vegetables and fruit, which can be donated to other people.

Lewis (1995) mentions a study by community psychiatrist Dumont who looked at the city and tried to understand it in terms of the mental-health needs of urban residents. Dumont found that the city dweller has need for stimulation to break the monotony of daily life; sense of community and sense of mastery of the environment. He found that gardening can satisfy the needs of city dwellers. For instance neighbours come to know each other when they create their garden. They are not forced but contacts develop spontaneously. There are no barriers when the person who grows the best lettuce is questioned by other gardeners on how to

improve their crop. The gardens are evidence of individual achievement which overcomes the helplessness of low-income areas, showing that, indeed, individuals can bring about a change (*sense of mastery of the environment*). New leaves and flowers give the gardener enhanced feelings of pride and self-esteem.

CONCLUSION

Different studies from various countries show that people-plant interactions promote human well-being of different target groups, not only curative but also as a preventive treatment for individuals as well as groups. These findings show that apparently people think that working with plants is beneficial for human well-being. However, little research has been done on the determinants of working with plants that are beneficial for human well-being. Little is known about the mechanism behind horticultural therapy and in many cases the evidence is weak due to methodological limitations of the research.

Sempik et al. (2003) mention that a number of reports are published as 'pilot studies' or 'preliminary results' without being followed up with the full research findings. The Health Council of The Netherlands (Gezondheidsraad 2004) also concludes from its desktop study about 'Nature and Health' that follow-up research is required in order to provide further support for the indicators from existing theoretical and empirical research into the beneficial effect of nature in general, including working with plants, on health. Especially large-scale epidemiological studies would be a great help in finding evidence for the beneficial effects on the well-being that therapists, clients and gardeners experience from working with plants.

ENDNOTE

¹ The reports by the Health Council of The Netherlands and the Dutch Advisory Council for Research on Spatial Planning (Gezondheidsraad 2004) and Sempik et al. (2003) were of great help in finding the right studies

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CHAPTER 5

SOCIAL SERVICES AS SUPPLEMENTARY ON-FARM ACTIVITY FOR MENTALLY DISABLED PEOPLE

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Abstract. The parents of mentally disabled people were interviewed with regard to their willingness to include their offspring in the everyday life and the activities on farms, which would provide them with social services (employment, care, nursing) in the form of supplementary on-farm activities. Among 361 interviewed parents, 54% expressed willingness to participate in the programme. In order to assess the association between 'willingness' and the relevant characteristics of the parents and their mentally disabled offspring, the logistic regression models were applied. The analysis shows that the most probable users of services provided by care farming are young persons with a lower degree of mental disability who have well educated parents, and who already have some practice in agriculture.

Keywords: care farms; on-farm therapy; multifunctional agriculture; agricultural therapy; horticultural therapy; statistical models

INTRODUCTION

Background

According to the National Report of Slovenia on the Social Standing of Mentally Disabled (SOŽITJE 2001), 55% of the mentally disabled adults are unemployed and/or without proper occupation, while 83% of the adults with mental disability have no access to permanent occupational training. The high unemployment rate of this population segment is mainly the result of the economic transition and reconstruction of the manufacturing industry that used to be the main provider of simple jobs. Yamaki and Fujiura (2002) found out that employed mentally disabled persons generated higher incomes than expected. Their income exceeded benefits from social transfers granted to unemployed mentally disabled persons. The authors stress the problem of social marginalization of the majority of the mentally disabled that cannot find a proper job: low income – low capability to take on job opportunities. Therefore, the question of how to solve this problem is a very important issue with regard to the quality of life of adult persons with mental disability (Kebbon 1997).

One of the possible solution could be provided through multifunctional agriculture (Cahill 2001; OECD 2001): social services for people with disabilities (so called agri-care farming) could be provided by farmers as a supplementary on-farm activity. In this case people with disabilities would be in regular contact with the usual social environment. They would also be included in the everyday on-farm routine of the farmer's family, which would provide the opportunity for their individual treatment (Van der Schilden and Vink 2000). On the other hand, the positive externalities (Merlo and Briaies 2000; Terluin 2003) of farming on the well-being of people with disabilities (Kahn and Juster 2002) becomes a visible economic value through the farmer's additional income.

Agriculture is included as an indispensable component in the occupational therapies for people with special needs, those with mental disabilities in particular (Predny and Relf 2000). However, the role that agriculture and rural communities can play in the social reintegration of historically excluded social groups – people with special needs – is often totally neglected when multiple functions of agriculture and rural amenities are discussed (Randall 2002).

Aim

The inclusion of farmers in therapeutic programmes based on agriculture will make better use of the therapeutic potential of agriculture and rural amenities, as well as contribute to a higher life quality of the disabled. Therefore, the aim of the research is to assess whether the parents in Slovenia are willing to include their mentally disabled offspring in the system of social services provided by the farmers as supplementary on-farm activity.

METHODOLOGY

Qualitative research procedure

Thirty groups of parents – participants of rehabilitation programmes organized by The Slovenian Association for Persons with Intellectual Disability (SOŽITJE) – were surveyed by means of group interviews. The interview was designed as a combination of cognitive and conative approaches (Malholta and Birks 2000??). Two sets of indicators were used: one for parents themselves, another for their mentally disabled offspring. Indicators related to parents were: geo-demographic and socioeconomic characteristics, satisfaction with the actual employment and occupational situation of their children and their expectations in this field, experiences with farming (professional or amateur), willingness to place the mentally disabled on a farm, cooperation of therapeutic staff and farmers with necessary skills, anticipated allocation of vouchers. Indicators related to the mentally

disabled were: degree of mental retardation, actual dwelling and employment situation, occupation and training, experiences with farming, suitability of various lines of agricultural production, effects of farming/gardening on the emotional state, mood and behaviour of the people involved, and advantages and disadvantages of placing mentally disabled persons on a farm.

After the group interviews, the parents were asked to fill out a questionnaire, which served as the starting point for the individual interviews. If both parents were present, they were asked to fill out a single questionnaire. Three of the families had two mentally disabled offspring. In this case, one parent for each offspring filled out a questionnaire for one offspring. Thus, the number of 361 parents in a questionnaire refers to the same number of mentally disabled offspring.

Statistical models

The logistic regression models were applied to answer two questions:

- How does a particular characteristic of the parent and/or their mentally disabled offspring influence the degree of the parents' willingness to include their mentally disabled offspring in everyday on-farm activities?
- Which group of the parents shows the highest degree of willingness to include their mentally disabled offspring in everyday on-farm activities?

The characteristics, which were included in the models, were derived from the qualitative research. We assumed that, in the case of the parents, age, education and experience with agriculture would have the crucial influence, while in the case of the mentally disabled offspring, age, degree of mental disability and experience with agriculture would be decisive.

The studied characteristics were divided into two groups:

- The characteristic 'degree of willingness' is the response variable (Y). It has three values: unwilling (coded as 0), indecisive (coded as 1) and willing (coded as 2).
- All other characteristics are exploratory variables (X_1, X_2, \dots, X_p).

The degree of willingness of the parents and the degree of mental disability of the offspring were regarded as the key characteristics. The qualitative phase of the research revealed that the data on the key characteristics were missing for 90 respondents. These respondents were excluded from the statistical analysis that was carried out in relation to 271 respondents.

The association of a particular exploratory variable with the response variable (univariate models), as well as the simultaneous association of several exploratory variables with the response variable (multivariate models), was in the centre of our attention. We used the nominal logistic regression (Hosmer and Lemeshow 1989) to analyse our data. This method is a simple generalization of the standard logistic regression, which is defined by the function *logit* in case the responsive variable Y has two values (denoted by 0 and 1):

$$\text{logit } P(Y = 1 | 0) = \ln \frac{P(Y = 1)}{P(Y = 0)} \quad (1)$$

In our case the response variable Y has three values (denoted by 0, 1 and 2); two more *logit* functions can be defined:

$$\text{logit } P(Y = 2 | 0) = \ln \frac{P(Y = 2)}{P(Y = 0)}; \quad (2)$$

$$\text{logit } P(Y = 2 | 1) = \ln \frac{P(Y = 2)}{P(Y = 1)} = \text{logit } P(Y = 2 | 0) - \text{logit } P(Y = 1 | 0) \quad (3)$$

The latter equation clearly demonstrates that the third logit is the difference between the first and the second one. In the case of the first and the second logit, value 0 refers to the reference group; in the case of the third logit, the reference group is 1.

The multivariate logistic model includes p exploratory variables and is a generalization of the univariate logistic model defined by two *logit* functions:

$$g_1(X) = \ln \left[\frac{P(Y = 1 | X)}{P(Y = 0 | X)} \right] = \beta_{10} + \beta_{11}X_1 + \dots + \beta_{1p}X_p \quad (4)$$

and

$$g_2(X) = \ln \left[\frac{P(Y = 2 | X)}{P(Y = 0 | X)} \right] = \beta_{20} + \beta_{21}X_1 + \dots + \beta_{2p}X_p \quad (5)$$

RESULTS

Descriptive analysis of the parents' view on including their mentally disabled offspring in everyday on-farm activities

As there is no care farming in Slovenia, the idea of incorporating farms and farmers into the system of protection and training of persons with mental disability was quite new to the respondents – parents or guardians of those persons. The majority of 361 interviewed parents, 67%, opted for suggested answers: 54% were willing to include their mentally disabled offspring in everyday on-farm activities (19% unconditionally, 35% under certain conditions), while 13% were against it (5% of all respondents expressed their strong opposition).

Table1. *Willingness of the parents of mentally disabled offspring to include him/her into everyday on-farm activity, % (N=361)*

Willingness	Degree of mental disability					All
	mild	moderate	severe	profound	unknown	
Willing	2.8	10.8	1.9	1.7	1.7	18.8
Willing conditionally	3.3	20.5	7.8	2.2	0.8	34.6
Unwilling	-	3.0	2.5	1.1	0.8	7.5
Unwilling under any condition	0.8	1.7	1.7	0.6	0.6	5.3

Indecisive	2.2	10.0	1.4	0.6	1.1	15.2
Already living on a farm	0.8	2.2	1.7	2.2	0.6	7.5
Unknown	0.6	3.0	1.1	1.7	4.7	11.1
All	10.5	51.2	18.0	10.0	10.2	100

The parents consider employment of their mentally disabled offspring as a crucial factor contributing to the quality of his/her life. Due to the poor opportunities to find a proper job or activities for their adult mentally disabled offspring, one third of the parents see the periodical leisure activities as the most suitable way to include their offspring in everyday on-farm activity.

Table 2. Forms of on-farm activities preferred by the parents of the mentally disabled, % (N=361)

	Degree of mental disability					All
	mild	moderate	severe	profound	unknown	
Protected employment	42.1	37.3	30.8	33.3	8.1	33.2
Periodical leisure activities	23.7	23.2	21.5	16.7	8.1	20.8
Daily care	7.9	18.4	12.3	8.3	10.8	14.4
Dwelling community	18.4	14.1	4.6	2.8	10.8	11.4
Other	7.9	7.0	0	5.6	0	5.0
Indecisive	0	0	30.8	33.3	62.2	15.2
Total	100.0	100.0	100.0	100.0	100.0	100.0

The farmer to whom the parents would entrust their mentally disabled offspring, has to be trained adequately and must have personal experience with mentally disabled. Yet, first of all, he/she has to be 'a good sort of a person'. The parents expect the farmer to respect and to understand the mentally disabled, as well as to bear with them. As the parents have no practical experience with care farming, they would like to have professional attendance on a farm for their mentally disabled offspring.

The agricultural lines of production that the parents assessed as the most adequate ones for their mentally disabled offspring, corresponded with the lines they already had had experience with: vegetable and ornamental-flower production, followed by fruit and herb production. More than half of the interviewed parents thought that involvement with plant production has a favourable impact on the well-being of the mentally disabled. Being in the open air, an increase in self-dependence and self-confidence, as well as gaining experience and the acquisition of skills were the positive effects most often quoted by the parents. Even when the frequency of contacts with animals was lower, the experiences with regard to the impact on the emotional state, behaviour and mood were the same. These impacts were described as soothing, stimulating, enlivening and strengthening one's self-confidence.

Table 3. The parents' evaluation of the suitability of agricultural lines of production for the mentally disabled, and the experiences of the parents and the mentally disabled offspring with agriculture

Production lines	Parents according to their assessment of the suitability of the production lines for the mentally disabled, % (N=361)		Practice of the parents and the mentally disabled offspring in the production lines, % (N=361)	
	suitable	unsuitable	parents	mentally disabled offspring
Vegetable	32.1	5.5	63.7	25.2
Ornamental flower	25.2	4.7	63.7	15.5
Poultry	16.3	7.4	13.3	8.3
Small breeding	14.9	9.7	8.0	8.3
Crop	14.6	12.4	26.6	11.9
Herbal plants	13.3	7.2	5.8	1.4
Fruit	13.0	13.1	20.2	8.3
Cottage industry	12.8	7.4	1.4	1.1
Horse breeding	12.2	12.5	4.2	3.9
Cattle breeding	11.1	13.3	17.5	10.0
Vine growing	9.1	10.5	16.1	8.3
Home food processing	7.4	5.5	16.6	8.6
Pig breeding	7.0	13.0	12.7	6.9

Out of 13 different sources of risk, the parents perceived two groups as the most threatening: those that originated from farming itself (injuries caused by agricultural machinery and tools, poisoning with agricultural chemicals, injuries caused by animals) and those that originated from farmers' behaviour (verbal abuse, physical abuse, slave labour). Although the parents were aware of all the relevant risks of farming, the fear of mistreatment predominated. They believed the appropriate personal attitude of the farmers towards the mentally disabled to be the most important characteristic. Respect, understanding and patience were the most frequently mentioned attributes. Positive experiences with mentally disabled persons were more important for the parents than the experience in farming and farming skills. Farmers should receive special training for working with the mentally disabled. The training should be organized by SOŽITJE (55%), and centres for protection and training (57%), i.e., organizations and institutions they are familiar with.

Analysis of the willingness of the parents to include their mentally disabled offspring in everyday on-farm activities

Impact of the age

The parents provided the data on the age for 255 mentally disabled offspring: the youngest one was 3 years old, the oldest was 63. The data on the age of the parents were obtained for 250 mothers of the above mentioned 255 mentally disabled offspring. The youngest mother was 23 years old, and the oldest was 89. The average age of the mother was 50.9 years, with a standard deviation of 14.4 years.

Figure 1 shows that for younger mothers with younger mentally disabled offspring willingness (yes) or indecision (there is no significant difference between these two categories) is detected more often, while older ones expressed their unwillingness (no) in a higher degree. As a strong correlation ($r = 0.838$, $p = 0.000$) between the age of the mother and the offspring can be detected, the latter will be studied further on. The calculation, which supplements the figure, shows that the first quartile for the age of the mentally disabled offspring is 13 years, the second one (median) 24 years and the third one 34 years.

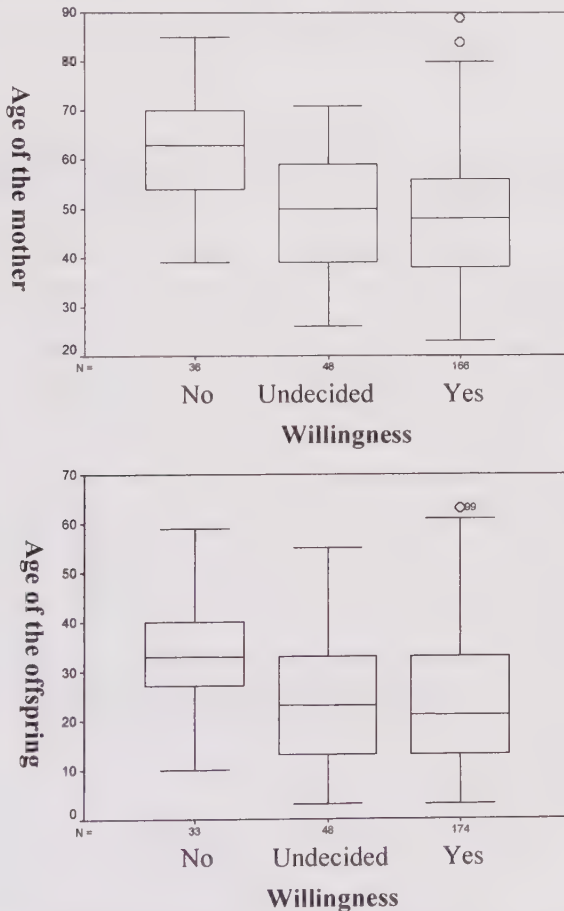


Figure 1. Age of the mother (above) and age of the mentally disabled offspring (below) according to the willingness of the parents to include their mentally disabled offspring in everyday on-farm activities

The impact of the age was evaluated by the nominal logistic regression. The age of the mentally disabled offspring was divided into two groups: *younger* (up to 24 years of age) and *older* (25 years of age and more): The older were taken as the reference group.

The comparison of the parents who are willing to include their mentally disabled offspring in everyday on-farm activity with those who are not shows that the age of the offspring is highly statistically significant ($p = 0.001$). A younger person has 4.9 times higher odds to be sent on a farm (95% CI is 2.0 – 11.9) than an older one. The comparison of the parents who are willing to include their mentally disabled offspring in everyday on-farm activities with those who are indecisive pointed out a statistically insignificant impact of the age ($p = 0.859$). The comparison of the parents who are not willing to include their mentally disabled offspring in everyday on-farm activities with those who are indecisive presents almost identical results: $\exp(1.590+0.006) = 5.200$, the corresponding 95% confidence interval is 1.9 – 14.3.

Table 4. Results of the nominal logistic regression: impact of the age of a mentally disabled person on the parents' willingness to include him/her into everyday on-farm activities

	b	se(b)	Wald	DF	p	exp(b)	95% CI	
Willingness: Yes/No								
Age group						1.000		
up to 24 years								
25 years and more	1.590	0.452	12.344	1	0.001	4.903	2.020	11.902
Willingness: Yes/Indecisive								
Age group						1.000		
up to 24 years								
25 years and more	-0.006	0.330	0.032	1	0.859	0.943	0.493	1.802
Willingness: Indecisive/No								
Age group						1.000		
up to 24 years								
25 years and more	1.649	0.517	10.179	1	0.001	5.200	1.889	14.317

Impact of the education of the parents

The data on the education of the parents refer to the parent, who filled out the questionnaire. The data on 14 parents (5.2 %) are missing. The level of education is presented in three categories: elementary school or less (82 respondents or 31.9 %), secondary school (130 respondents or 50.6 %), higher education (45 respondents or 17.5 %).

Figure 2 shows the education of the parents according to their willingness. The graph and the χ^2 statistics confirm the impact of education on the willingness ($\chi^2 = 20.220$; $p = 0.000$); a higher degree of willingness is characteristic of parents with a higher level of education.

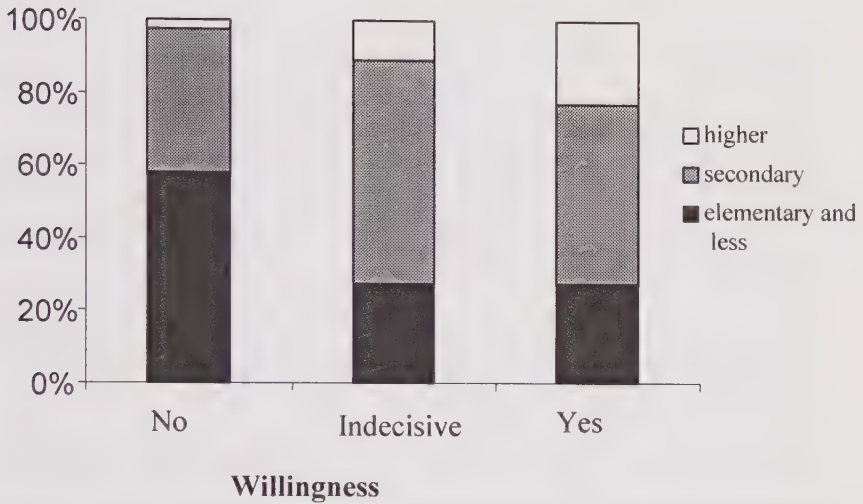


Figure 2. Education of the parents according to the willingness to include their mentally disabled offspring in everyday on-farm activities

The results of the logistic regression are presented in Table 5. The category 'basic' corresponds to the elementary school and less, and is defined as the reference group. Two other groups were merged into the category 'more than basic' and then compared with the group 'basic'.

The comparison of the parents who are willing to include their mentally disabled offspring in everyday on-farm activity with those who are not shows that the offspring whose parents have more than basic education have 3.7 times higher odds (95% CI 1.8 - 7.6) to be sent to a farm than those whose parents have only basic education. The comparison of unwilling and indecisive parents gives similar results. The comparison of the parents who are willing to include their mentally disabled offspring in everyday on-farm activity with those who are indecisive does not show any significant differences.

Table 5. Results of the nominal logistic regression: association of parents' education with their willingness to include their mentally disabled offspring in everyday on-farm activities

	b	se(b)	Wald	SP	p	exp(b)	95% CI	
Willingness: Yes/No								
Education of the parents:						1.000		
basic								
more than basic	1.297	0.370	12.251	1	0.010	3.657	1.769	7.559
Willingness: Yes/Indecisive								
Education of the parents:						1.000		
basic								
more than basic	0.017	0.368	0.002	1	0.964	1.017	0.494	2.093
Willingness: Indecisive/No								
Education of the parents:						1.000		
basic								
more than basic	1.280	0.463	7.644	1	0.006	3.596	1.451	8.910

Impact of the degree of mental disability

The degree of mental disability is one of the key characteristics that were studied. Thirty-three parents (12.2%) reported a mild degree of mental disability of the offspring, 164 (60.5%) reported a moderate degree, 54 (19.9%) reported a severe degree, and 20 (7.4%) reported a profound degree of mental disability of their offspring. During the analysis of the influence of the degree of disability, it became obvious that the number of the respondents in a particular cell of the table was very low. Therefore, the initial four categories of the degree of mental disability were merged into two: lower degree of disability (mild and moderate) and higher degree of disability (severe and profound).

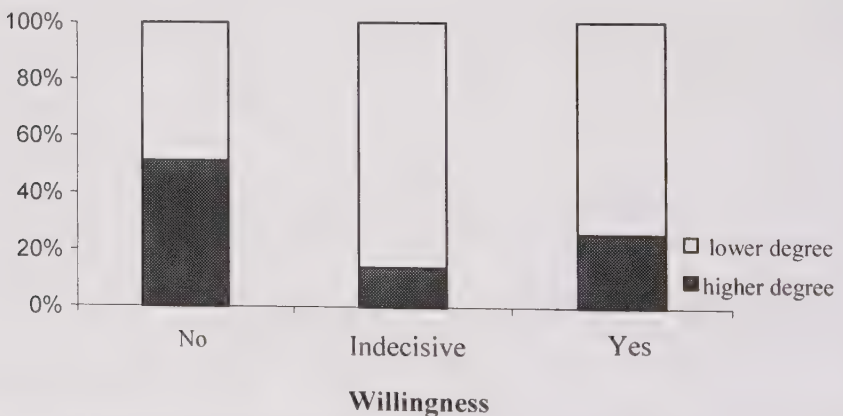


Figure 3. Degree of mental disability of the offspring according to the willingness of the parents to include him/her in everyday on-farm activities

The graphical presentation of the structure of the willingness according to the degree of mental disability is given in Figure 3. Approximately one half of the parents of the persons with a higher degree of mental disability expressed unwillingness, while only 26% (47 out of 182) of them expressed willingness. Yet, the proportion of offspring with a higher degree of disability is higher in the group of willing parents in comparison with the group of indecisive parents. The influence of the degree of mental retardation on the willingness of the parents to include their mentally disabled offspring in everyday on-farm activities is tested by χ^2 statistics ($\chi^2 = 15.955$; $p = 0.000$).

Table 6. Results of the nominal logistic regression: the association of the degree of mental disability of the offspring with parents' willingness to include him/her in everyday on-farm activities

	b	se(b)	Wald	SP	p	exp(b)	95% CI	
Willingness: Yes/No								
Degree of disability:						1.000		
higher								
lower	1.106	0.362	9.322	1	0.002	3.024	1.486	6.151
Willingness: Yes/Indecisive								
Degree of disability:						1.000		
higher								
lower	-0.760	0.441	2.966	1	0.085	0.468	0.197	1.111
Willingness: Indecisive/No								
Degree of disability:						1.000		
higher								
lower	1.867	0.518	12.964	1	0.000	6.466	2.341	17.861

The comparison of the parents who are willing to include their mentally disabled offspring in everyday on-farm activity with those who are not shows that the influence of the degree of disability of the offspring is highly statistically significant ($p = 0.002$): the offspring with a lower degree of disability have 3.0 times higher odds to be sent on a farm (95% CI is 1.4 – 6.2) than those with a higher degree of mental disability. The comparison of the parents who are willing to include their mentally disabled offspring in everyday on-farm activity with those who are indecisive showed a marginal statistical significance of the influence of the degree of mental disability ($p = 0.085$). The corresponding ratio of the odds is approximately 0.47 (it means below 1). This means that the offspring with a higher degree of disability have 2.1 times (95% CI is 0.9 – 5.1) more odds for their parents being indecisive than in favour of sending them to a farm. The interval is 1.9 – 14.3.

Impact of the practice in agriculture

Only 20 parents (7.4%) reported that they have no practice in agriculture, while all the rest (249 or 92.6%) have personal practice in agriculture. Yet, only one third (82 or 30.9%) of their offspring have personal practice in agriculture (including gardening), while 183 (69.1%) have none.

The bivariate analysis shows that the parents' practice in agriculture has no statistically significant influence on their willingness to include their mentally disabled offspring in everyday on-farm activities ($\chi^2 = 3.171$; $p = 0.205$). In the case of mentally disabled offspring and their practice in agriculture the analysis shows a statistically significant influence on the willingness of their parents to send them to a farm ($\chi^2 = 12.721$; $p = 0.002$). The more the offspring have practice in agriculture the more the parents are willing to send her or him to a farm: the relation is linear.

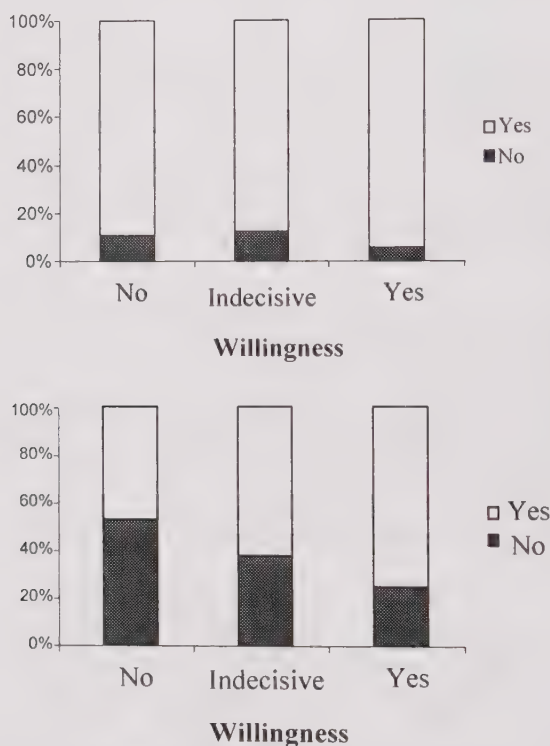


Figure 4. Practice in agriculture (above: parents, below: offspring) according to the willingness of the parents to include their mentally disabled offspring in everyday on-farm activities

The results of the nominal logistic regression are presented in Table 7. They relate only to the mentally disabled offspring and the experience they have with agriculture. The reference group is the group 'without practice'. The analysis of the value b shows a linear trend in the *logit* function: value 0.6 in the comparison willing/indecisive, as well as when comparing indecisive/unwilling, and 1.2 when comparing willing/unwilling.

Table 7. Results of the nominal logistic regression: the association of the experience with agriculture of the mentally disabled offspring with the parents' willingness to include him/her in everyday on-farm activities

	b	se(b)	Wald	SP	p	exp(b)	95% CI	
Willingness: Yes/No								
Practice in agriculture:						1.000		
without practice						3.409	1.656	7.018
with practice	1.226	0.368	11.085	1	0.001	3.409	1.656	7.018
Willingness: Yes/Indecisive								
Practice in agriculture:						1.000		
without practice						1.841	0.936	3.620
with practice	0.610	0.345	3.129	1	0.077	1.841	0.936	3.620
Willingness: Indecisive/No								
Practice in agriculture:						1.000		
without practice						1.852	0.780	4.395
with practice	0.616	0.441	1.953	1	0.162	1.852	0.780	4.395

The impact of the practice in agriculture is highly statistically significant in the case of comparison willing/unwilling ($p = 0.001$): the mentally disabled who have some practice in agriculture have 3.4 times higher odds for being sent to a farm in comparison with those who have no such practice (95% confidence interval is 1.6 – 7.0). The comparison of those who are willing with the indecisive parents shows a marginal statistical significance ($p = 0.08$), the ratio of odds is 1.8 (95% confidence interval is 0.9 – 3.6).

The multivariate analysis of the willingness of the parents to include their mentally disabled offspring in everyday on-farm activities

In order to determine the difference between the parents who are willing to include their mentally disabled offspring in the everyday on-farm activities and those who are not, the following variables were incorporated into the model: age of the mentally disabled offspring (up to 24 years, 25 years and more), education of the parents (basic, more than basic), degree of mental disability (lower, higher), experience of the mentally disabled offspring with agriculture (with experience, without experience). The results of the nominal logistic regression are presented in Table 8. The estimations of the parameters in the multivariate model are slightly different from those in the corresponding univariate models due to the association between several explicative variables. The comparison of the parents who are willing to include their mentally disabled offspring in everyday on-farm activities with those who are not revealed that the age of the offspring has the strongest impact ($p = 0.006$), followed by the impact of having experience with agriculture ($p = 0.043$). The impacts of the degree of mental disability of the offspring and the education of the parents have a marginal statistical significance ($p = 0.08$ and 0.09 , respectively). The parents who are willing to include their mentally disabled offspring in everyday on-farm activities differ from those who are indecisive in

having experience with agriculture. This has a significant statistical impact ($p = 0.023$). In this case a marginal statistical significance of the degree of mental disability ($p = 0.088$) is detected.

Table 8. Results of the nominal logistic regression: multivariate model

	b	se(b)	Wald	DF	p	exp(b)	95 % CI	
Willingness: Yes/No								
Age group						1.000		
older								
younger	1.323	0.481	7.555	1	0.006	3.755	1.462	9.648
Education						1.000		
basic								
more than basic	0.763	0.435	3.075	1	0.080	2.145	0.914	5.034
Degree of disability						1.000		
higher								
lower	0.729	0.429	2.884	1	0.089	2.073	0.894	4.810
Practice						1.000		
no								
yes	0.869	0.430	4.091	1	0.043	2.386	1.027	5.540
Willingness: Yes/ Indecisive								
Age group						1.000		
older								
younger	-0.111	0.363	0.093	1	0.760	0.895	0.440	1.822
Education						1.000		
basic								
more than basic	0.215	0.396	0.294	1	0.588	1.240	0.570	2.695
Degree of disability						1.000		
higher								
lower	-0.798	0.467	2.915	1	0.088	0.450	0.180	1.125
Practice						1.000		
no								
yes	0.856	0.376	5.183	1	0.023	2.354	1.126	4.419

DISCUSSION

As there is no care farming in Slovenia, the idea of incorporating farms and farmers into the system of protection and training of the mentally disabled was quite new. Through the interviews the parents began to recollect their own experiences and the experiences gained by their mentally disabled children through different contacts with the rural environment. Activities that are offered by the existing institutions are few and monotonous; therefore the variety of activities that could be offered by farms attracted their attention. As their contacts with plant production have been more frequent than those with animal breeding, the potential of the latter is being underestimated. The parents do not exaggerate in their concern for the wellbeing of their offspring on a farm. Careful selection of farms and specific training of farmers could further diminish the potential threats. The parents would trust most the farmer who is 'one of us', i.e., the farmer with a mentally disabled offspring. It is obvious

that the parents want to see how this novelty will work; therefore, they prefer periodic on-farm activities to permanent employment. The parents see care farming as an attractive new opportunity for their mentally disabled offspring. They have a good idea of the performance of care farming that would gain their confidence and meet the needs of their offspring

The information provided by the parents of the mentally disabled can help us to define proper guidelines for the development of the system of care farming in Slovenia for this segment of the users. The most suitable initial providers of services are farmers with first-hand experiences with the mentally disabled (family members, foster children). The second group are farmers who live near the existing institutions and already have some business and/or social contacts with mentally disabled persons (selling products, family members being employed in the institution, etc.). The supply of services should start with periodic activities (horse riding, fruit picking, making hay), gradually expanding to regular full-time protection and training. Farmers should have an easy access to special training programmes, which should be individualized and carried out on the farm.

CONCLUSION

The analysis of the willingness of the parents to include their mentally disabled offspring in everyday on-farm activities shows that the most probable users of services provided by care farming are young persons with a lower degree of mental disability who have well-educated parents, and who already have some practice in agriculture. Therefore it is crucial to 'green up' the existing programmes of education and training of the mentally disabled in order to provide the room for acquiring experiences and for having them evaluated by the mentally disabled themselves. They have to be provided with the opportunity to make choices, whether they are consistent with the parents' ideas or not.

The discussions with the parents on the studied issues revealed the real truth about the wellbeing of mentally disabled persons. They are trapped in the system of large and dominant institutions having only one option: institution or nothing. "We are not aware that things can be organized in any other way" is the common comment. It only proves that in the case of the privatization of social services (*Nacionalni program socialnega varstva do leta 2005 (NPSV). Uradni list Republike Slovenije: 31/2000* 2000) the coalition of providers and users can easily be deformed into a coalition of politicians and professional providers, with no influence from the users (Rus 1999). In this case there is no room for the choices made by persons with mental disabilities, nor for those made by farmers as providers of social services.

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CHAPTER 6

THE LAY BELIEFS ABOUT FARMING FOR HEALTH

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Abstract. This article presents the arguments and motives of farmers offering services on their farms and the arguments of those who buy such services. These are analysed from data of a research project which has revealed disagreements as well as agreements about the health potential of agricultural welfare services. The variety in interpretations is questioned in this article. The theoretical approach is social constructivism; seeing argumentation as thoughts and beliefs about health. Lay beliefs are not to be seen as opposed to scientific knowledge. Lay concepts are in common use in society and they are a mix of know-how and informal expertise, tacit knowledge and lay experiences, often based on main norms of society. Beliefs about health are rooted in wider socio-cultural contexts and they are not simply diluted versions of medical knowledge; rather they are shaped by people's wider milieu such as their structural location, cultural context, personal biography and social identity.

The most challenging result is the variance in arguments between health-care professionals of public authorities and farmers. While farmers focus on the general lay beliefs of social relations, healing by working and a well-arranged environment, the representatives of the health-care profession stress the benefit of the farm as a primary producer. This type of argument claims the farmer to be 'real' and the farm to be authentic if the services would be optimal regarding healing and salutogenic effects.

Keywords: Farming for Health: sociology of health; social constructivism; lay beliefs about health; salutogenic factors; socio-environmental model of medicine

LAY BELIEFS ABOUT FARMING FOR HEALTH

In this chapter we present the arguments and motives of the supplementary businesses within Norwegian agriculture based on welfare services. Some of the arguments of farmers for establishing such services and the arguments for buying and using such services vary. The motives may be both individual and collective. The theoretical approach is social constructivism; seeing argumentation as thoughts and beliefs about health as constituted by a mix of lay experience and scientific knowledge. This paper focuses on the *lay beliefs about Farming for Health*. Lay beliefs are not to be seen as opposed to science in a sense of 'more wrong' or 'less authorized'; they are just different. The lay concepts are in common use in society and are a mix of know-how and informal expertise, tacit knowledge and lay experiences. This will be explained in more detail.

We are interested in the arguments and motives of offering and demanding agricultural welfare services as regards the implication and assets of the *legitimacy of the agricultural welfare services* phenomenon. Offering welfare services is a disputed practice within both the municipal departments buying the services as well as among the farmers themselves. From one point of view this phenomenon may be looked upon as a kind of supplementary business within farming, thereby shaping and altering the role of farm and farmer and of agriculture. Another perspective about Farming for Health (FH) may be considered a new way of organizing health-care services, also interacting with society, including and adopting new rural and urban groups into farming and rural life. With respect to a health-professional's point of view this may imply both a challenges and a threat.

The approach is to examine the lay beliefs about FH as salutogenic aspects. The lay beliefs among farmers themselves and the representatives of the municipal authorities demanding and buying the services are in focus.

This chapter is based on a research project that revealed fundamental disagreements as well as agreements on the health potential of agricultural welfare services; it questions the variety in interpretations.

Arguments can be systematized into either a positive or a negative category with respect to FH. In this article we focus mainly on the positive arguments. The arguments rely on symbolic categories about the life on the countryside and on farms. The lay health beliefs represent differences in knowledge and valuation of the aspects and connections between health, nature and socio-cultural conditions. Positive for instance is the notion that the countryside is 'safe and secure' (Villa 2005; 1999), whilst negative beliefs might be based on the notion of the countryside as 'a place left behind', the farm arena as a risky place (Almås 1985), or rooted in the historical organization of the former parish relief system and of modern discourse about child work.

Establishing and offering welfare services may, however, be motivated by conditions far beyond the lay beliefs of health, more inspired and stimulated through the press and pull factors of agriculture as business (Fjeldavli and Meistad 2004). Pull factors might be positive inspiration and stimulation to act whilst the push factor might be negative (Spilling 1998). Even this paper focuses on the health-belief arguments, the more structural and economic motives for offering welfare services should be kept in mind. We therefore want to explore the motives of farmers for offering welfare services.

THE RESTRUCTURING PROCESSES IN AGRICULTURE

To understand why FH is coming up as alternative health care, we have to look at both the restructuring processes within agriculture as well as in the welfare services, and the changing knowledge of health.

Norwegian agriculture has gone through massive developments since the Second World War. In particular, there has been a focus on greater efficiency (Almås 2002). This has led to changing social structures in parts of rural Norway. During the past 50 years the number of farms in Norway has decreased, the remaining farms have

increased in size and farming has been modernized (Blekesaune 1996). The structuring process involves both decline in family farming and the establishment of one-person farms (first and foremost milk producers) (op. cit.). One of the material consequences is that buildings like barns, storehouses and farm workshops are left unused without maintenance. Farmers, entrepreneurs and politicians have asked how these resources can be put to productive use, other than for the traditional production of food (Sosial- og Helsedepartementet 1994).

In Norway, as in other European countries, there is a growing interest among farmers in combining the production of primary goods with the production of different kinds of services on the farm (Landbruksdepartementet 1999). In recent years we have seen new ways of using the farm, like farm holidays, arts and crafts, and direct sales of fresh vegetables, fruit and locally processed food from farms. Green Care services are among the new farm activities in Norway, as well as in many other European countries, and a national programme has been introduced to farmers over the past 10 or 15 years to promote the services and train farmers in providing them.

Another trend is that farmers and their wives are educated through the public system giving them a second qualification in addition to their qualifications and experience within agriculture. A large number of Norwegian farmers are working as teachers, nurses, physiotherapists, social workers or as craftsmen, in addition to the work on the farm (Fjeldavli and Meistad 2004). Farmers offering welfare services have experience from working in the public health-care sector (op. cit.).

Farming for Health as a supplementary business

Welfare services have been developed over a period of 10 - 15 years in Norway and are getting quite popular in several municipalities. On some farms the provision of welfare services is not new but is part of a long tradition and history of the farm and the farm family. Historically, farms and farm working have been used for outdoor groups; the phenomenon of FH per se is not that modern. Today welfare services are offered on about 600 farms nation-wide (Fjeldavli and Meistad 2004). In some areas, and especially in the County of Sør-Trøndelag in the centre of Norway, the number has last year increased by nearly 30% (personal communication Frøseth 2005).

The agricultural welfare services are supported by a public policy for rural development (Landbruksdepartementet 1999). Such services are considered one of the strategies to diversify farm income and to encourage a new form of agricultural supplementary business in rural areas. Besides meeting the increased demand for alternative arenas and procedure for treatment, training and activities, the idea is to activate physical resources on the farm and the broad spectrum of knowledge and experience among farmers. The public aims of FH are threefold: benefit for the individual offering the services, increase the economic profit of the farm and that of the public departments.

Concepts of welfare farming

The activities launched by farmers offering supplies and services on farms for 'non-farm' people as a resource for healthy lifestyle, social coping, empowering and learning activities are named agricultural welfare services. Lots of different concepts are used for the different services. Examples are Green Care, Green Cooperation, Green Farms, Into the Courtyard, Holiday on Farms, Relief Farms, City-near Farms, The Farm as Teaching Resource, The Real School Yard. The reference to the colour green for these kinds of activities in Norway should not be mistaken for purely ecological or other 'amenity-producing' landscape activities. The more familiar European description 'Caring Farms' is more appropriate for the phenomenon in Norway, but 'Green Care' is still in common use. The most accepted saying within agricultural organizations is 'Into the Courtyard' (www.innpaatonet.no). In this chapter we name the different kinds of activities 'agricultural welfare services'; abbreviated to 'welfare services'.

The concept examples highlight a lot of problems and challenges with respect to the practices, organizations and payment for the services. We mention three main issues: 1) the challenges of care farms outside and inside the scope of health institutions, 2) the overlap and link with agro-tourism and outdoor life in general, and 3) the overlap and contrast with other tasks traditionally linked to family organization and activities like foster homes and child care.

Practices and organization

The services are organized in a variety of ways. The relevant public-sector departments pay the farmer for organizing and providing the services. The farmer may play both the roles of farming and the 'welfare role' of work: training, caring, healing or teaching. He, or in fact most often she¹, may, e.g., be educated as nurse or teacher². If the farmers themselves do not have relevant education or related occupational experience, they may cooperate with a teacher or health professional on the farm. Over the last few years a lot of new courses tailored for farmers and 'welfare servants' have emerged in universities and colleges.

Within this field we find a diversity of practices³ and combinations of welfare services and arrangements. Some farmers offer services to two or three target groups at the same time. These may be disabled, ill and mentally retarded getting work-training in livestock or animal care aiming at improving health and coping at school. It may be pre-school children participating in food production like sheep breeding, slaughtering and food preparation, together with disabled or other groups or individuals.

Every farm that offers welfare services is recommended to sign an agreement with the local authorities which mediate and finance the activities. There is difference, however, regarding the possibilities of reaching such agreements. Some farms have a contract for several years and some only for one year each time. Some farmers have been offered contracts for several years, but have hesitated because they value the 'freedom' to experiment with their services.

The activities

The activities in welfare services are related to traditional farming with modifications regarding target groups and public goals (www.bygdeforskning.no, www.innpaatenet.no). The welfare services' activities cover tasks like caring for and feeding farm animals, horse riding and horseback training, work-training connected to crop production, maintaining farmhouses, horticulture and seasonal work in the field and seasonal work with animals like shearing sheep, even slaughtering animals. They may also involve activities like cleaning barns, repairing and preparing machinery, cutting fire wood, painting houses and also housework like cooking. They may be activities of outdoor life bound to outlying fields; like picking wild berries, cleaning fields from weeds, building roads, planting young trees, etc. These outdoor activities as well as the indoor homework may be more or less bound to traditional farming. In these practices we identified an overlap with the general outdoor activities and traditional feminine 'indoor' house activities.

The performance levels of the activities vary with the aim of the services and the composition of the target groups. The same activities may serve different aims; e.g., caring for animals and cutting fire wood may at same time be a therapeutic means, work to be done, and learning activities. An important principle is that the activities and the work performed should not be a substitute for the farmer's work.

WELFARE-STATE FAILURES AND CONSTRUCTION OF HEALTH BELIEFS

The services of the welfare state are under pressure, in Norway as well as in many other countries (Sosial- og Helsedepartementet 1994). Traditionally the welfare state has a strong position in the Nordic countries (Greve 1998). Today the situation in both health-care services and educational systems has been restructured by outsourcing and opening various public tasks to privatization. For instance, last year a lot of new private schools have been emerging.

The health sector is short of resources due to increased demand. The child care and school sectors are caught between limited resources and demands for 'better' and 'more' individual treatment and teaching. There is also the ongoing process of reorganizing public administration and services at a general level. The liberal policy trend has strengthened the search for new ways of solving public tasks and distributes responsibility through promoting partnership and cooperation between the public and private sectors (Bay et al. 2001). Agricultural welfare services can be considered a kind of partnership between the public authorities and the independent, self-employed farmer. Farms and the countryside environment with plenty of space, healthy air, meaningful tasks and natural surroundings may represent an alternative 'medicine' or 'school yard'. This is integrated into the process of procuring knowledge about health and illness. The theme of the science of health and the legitimacy of the health sectors will be the focus of the following paragraphs.

The social construction of beliefs about health and wellbeing

The source of inspiration for analysing the arguments about offering and using farms as healthy arenas for curing illness, caring, work training and learning, is the sociology of health and illness. Sociology has traditionally been of great interest in health and health-related questions, and important authors and scientists in sociology are found in the field of the sociology of medicine (or the sociology of health and illness) (White 1991).

The main and most accepted perspectives of understanding health, illness and healing processes are found in the biological and pathogenic theories of modern medicine; in sociology often referred to as the biomedical model (Freidson 1970; 1988; White 1991; Nettleton 2000). Those theories are from a sociological point of departure criticized as reductionist, meaning that the science of medicine reduced illness, and then health, to organic and biological processes, overlooking the social and psychosocial aspect of health and illness⁴.

During the last two decades, the institution of medicine and the biomedical model have increasingly been challenged by critiques emerging from both popular and academic sources. These criticisms have been intensified in the context of the escalating costs of health care (Nettleton 2000), the escalating use of alternative therapy and the fact that a lot of illnesses and diseases emerge without a demonstrable underlying pathogenic or biomedical aspects. The emergence of FH may be understood from such a perspective.

A criticism of biomedicine is that it fails to locate the body within its socio-environmental context. In fact, an alternative to the biomedical model is often referred to as the 'socio-environmental model' of medicine (Freidson 1970; 1988; White 1991). Biomedicine has underestimated the links between people's material circumstances and illness. The sociology of health and illness has repeatedly demonstrated that health and illness are socially patterned (op. cit.). Taking those social patterns into account may produce alternative and new ways of organizing the services. FH is a new way of organizing services but also an original way of integrating the dimension of socio-cultural aspects of health.

Medicine has been taken to task for the way in which it treats patients as passive objects rather than 'whole' persons (Nettleton 2000). When students enter medical school, one of their first tasks is a human dissection; the object of study is the body and not the person⁵. Critiques of biomedicine have argued that it is essential to recognize that lay people have their own valid interpretations and accounts of their experiences of health and illness (op. cit.). For treatment and care to be effective these must be readily acknowledged. The sociology of health argues that socio-cultural factors influence people's perceptions and experiences of health and illness which cannot be presumed to be simply reactions to physical bodily changes. FH may be a resource for some people or groups of people, but certainly not a relevant activity for everyone.

A main challenge to biomedicine is the assumption that through its scientific method it identifies the truth about disease (White 1991) and consequently the truth about health as long as health is defined as the opposite to disease (Freidson 1970; 1988; Nettleton 2000). It is argued therefore that health is a flexible and unstable

situation depending on the individual subjective experiences of wellbeing and quality of life. "Health categories are not accurate descriptions of anatomical malfunctions, but are socially created; that is, they are created as a result of reasoning which is socially imbedded" (Nettleton 2000, p. 7). However, the apparent objectivity of medicine means that values may be transformed into apparent facts (White 1991). For example: the belief that women were unsuited to education in the nineteenth century was supported by medical evidence. The future reflections on 'Farming for Health' might turn into a parallel case.

It follows from this introduction to the sociology of health and illness that the knowledge about it is socially constructed. Consequently, the concept of health is found to be another dimension in relation to disease and currently a social construction meaning that the content and definitions may vary; altering and changing across borders of culture, space and time. In literature there is a huge range of definitions of health (Freidson 1970; 1988; Antonovsky 1996; Nettleton 2000). The concept of quality of life is often used as synonymous with health (White 1991). Focusing on positive health factors and aspects of quality of life, or wellbeing, the literature provides three main areas or factors with impact on the self-reported health situation; 1) social support or network; 2) meaningful 'work' (or activities); and 3) (the experiences of) control over everyday practices.

The lay beliefs about health

The dominant lay beliefs about health and wellbeing are composed of what we define as the factors of lifestyle (Nettleton 2000). Those aspects of lifestyle are connected to the factors that are increasingly evident as promoting and shaping illness and disease. The best-known factors are inactivity, smoking, poor nutrition and addiction to alcohol. It follows from this that sport and exercise, functional food, no smoking, etc. are deemed to be healthy pursuits. There is a growing range of social activities that seem to be conceptualized in relation to health. There is an extremely strong concern in society about health and an individualistic health pursuit, resulting in body orientation and prospecting of individuals. The health-promoting and preventing attitude of 'using' different aspects of nature are not that new within health science; nevertheless, there is a renewed orientation of understanding the correlation between nature and health.

The sociology of health has emerged into a more holistic approach considering promotion of health and wellbeing not as necessarily the opposite of what are considered relevant effects causing illness and disease. "The concept of health itself needs to be explored, and such exploration must take lay perspective into account" (Nettleton 2000, p. 37). Beliefs about health are rooted in wider socio-cultural contexts and are not simply diluted versions of medical knowledge; rather "they are shaped by people's wider milieu such as their structural location, cultural context, personal biography and social identity" (Nettleton 2000, p. 37). The understanding of health as being contained within a social context has pragmatic consequences (op. cit.). The pragmatic consequences concern both the way of understanding lay beliefs and the way of organizing and composing health-care services. The sociology of lay

health beliefs is of value to health-care practices in a number of ways: 1) findings contribute to an understanding of professional–patient interactions, instead of seeing the lay perspective as ‘incorrect’ knowledge; 2) an understanding of the ideas about health maintenance and disease prevention is crucial to the effectiveness of health education and health-promoting programmes; 3) the study of lay health beliefs may contribute to our knowledge of informal health care; and 4) such knowledge will give us more reliable data of what factors affect the quality of life from a subjective and individual perspective (op. cit.).

The salutogenic and risk lay beliefs and Farming for Health

In this article we use the concepts of salutogenic factors for health in contrast to the biomedical focus on pathogenic factors for disease (Antonovsky 1996). Salutogenic factors are those in the social and cultural environment promoting and strengthening health (op. cit.).

The arguments for the positive effect of working or training on a farm with respect to salutogenic factors are multiple. Integrated within lay thinking about the salutogenic factors of country life is that FH represents fresh air, lots of space, quiet surroundings, relaxing atmosphere, etc., as well as the manual and practical labour of farming. Healing through working (Ketelaars et al. 2001) is not only a byword within agriculture but a central social norm in society at a general level. To work is one of the most valued activities in society and thereby a central norm of social relationships and cooperation. Another lay belief about FH is based on the resource hypothesis of farm-animal relations to ‘non-farming’ visitors (Berget et al. 2004; Hassink 2002), or the more specific beliefs based on the therapeutic results of horse riding (Fitzpatrick and Tebay 1998). A third aspect concerns the horticultural activities affecting health and wellbeing (Relf and Lohr 2003; Sempik et al. 2003; Schmidtbauer et al. 2005).

A fourth aspect is the factor of farming being ‘closer to nature’, meaning closer to places of nature as opposed to urban places. Both fresh-air and space arguments, together with the images of quiet surroundings, are such nearer-nature arguments. In addition we find special projects, e.g., for using the forest as salutogenic health factor. There is, however, a need for greater knowledge about how specific aspects of nature, as well as nature on farms, can affect specific features of mental, physical and social health. There is a trend in literature towards searching for solutions that answer health problems by combining knowledge of ‘life science and philosophy’, for instance in modern science of medicine as ‘holistic’ and/or ‘complementary’ (see, e.g., the series of papers by Ventegodt and co-workers in *ScientificWorld Journal* 2003, 3). A quite fresh ‘speciality’ of health-promoting and wellbeing strategies is found in the cultural landscape.

The negative factors as arguments against agricultural welfare services are also set out. There are claims that the countryside is lagging behind, meaning that people living there are socially isolated and not integrated in society. Another indication is that young girls are leaving the countryside for education and work in urban areas and the boys stay behind taking over their fathers’ occupation and remain unmarried

because the girls are leaving the area. Consequently the countryside is going through a process of masculinization (Brandth and Haugen 1995), which has negative effects on social relationships and the opportunities for gender-mixed friendship.

The public-health professional's argument is that farmers are not the adequate persons to offer welfare services because they lack relevant education and experience. Besides this, the farm represents a dangerous environment, especially for children, being exposed to risky and hazardous situations. Working on farms is, indeed, correlated with a high accident rate.

METHODS AND MATERIALS

The Farming for Health field in Norway is unexplored and needs research at several levels and through different methods. The project of this study aimed both to map the field and to estimate the dimensions and extent of the phenomenon looking at issues about the farm, the supplies, the target groups, the activities, the farmer's role, education, performance, the economic situations and values, and the prospect for future development. On the other hand, the project was aimed at a deeper analysis of the phenomenon as a qualitative approach looking at meanings and patterns. The data material is therefore based on both qualitative and quantitative methods.

The quantitative method includes a nationwide postal survey of the population of farmers offering welfare service. The aim of the survey was rather exploratory than hypothetical with respect to the above-mentioned aspects.

The postal survey of the population of welfare farmers was held during the winter of 2003-2004 (mainly dispatched in November 2003 and the reminder sent out in February 2004). The questionnaire was sent to all welfare-services farmers registered at the County offices of agriculture in Norway.

The farmers were asked about their activities in 2003 and to report future expectations for their welfare-supporting activities. They were also asked to report on characteristics of the services they are providing, characteristics of the target groups, economy and employment parameters, their attitudes and networks, and some demographic data. By and large such variables are summing up the relevant role of the welfare-services farmer. The frequencies of the different variables are published in a report (Fjeldavli and Meistad 2004).

Of special interest in this paper are the variables of arguments and motives. The farmers were asked both about arguments for the quality of welfare services and about the motives for offering services. They were asked about the evaluation of the general social effect of offering FH. In the analyses we combine the different data. The qualitative data consisted of interviews, conversations and observations with the farmers and on the farms, as well as with representatives of the buyers, the public departments of the municipalities. We also visited a handful of farms and made observations.

FARMERS' BELIEFS ABOUT FARMING FOR HEALTH

In the survey the farmers were asked to tick their arguments about the quality of the welfare services offered on their own farm. The survey presented different statements the farmer could choose and accept with respect to the importance of the farm's value for the users. The question was formulated as follows: "From your perspective, what is important about the welfare services you are offering?". The questionnaire presented six short statements frequently mentioned in conversations both by lay people and experts. For each statement the respondent may choose between four alternatives from "of great importance" to "not important at all". In Table 1 we present the distribution of the arguments, ranging from the most important with respect to quality.

Table 1. Farmers' ranking of qualities of the farm with respect to the welfare services

Qualities of the farm	Of high importance
The farm as a safe and secure place	85
Social relations with adults	82
Sufficient amount of space	82
Social relations with animals	82
Practical work, physical activities	75
Fresh air and outdoor experiences	72

Source: Green Care survey 2003 (Fjeldavli and Meistad 2004)

The farmers' answers (Table 1) indicate that all above-mentioned farm qualities are considered highly relevant resources for agricultural welfare services and the different scores are not easy to tease out. The result is that statements based on the diffuse argument of 'safe and secure' are considered more important than statements like contact with adults, animals and sufficient amount of space. Practical work and physical activities were valued lower than relations with animals and adult persons.

The answers are not sufficiently different to distribute the farmers into fixed categories of arguments but we catch a glimpse of three categories of arguments, named "safety and security", "social support through relations to adults and animals" and "meaningful activities through practical work, physical outdoor experiences", and a slight glimpse of the strength between these aspects.

In interviews with the farmers, however, the statements 'safe and secure' are not that often mentioned directly but rather indirectly as illustrated by the following quotation:

"The boys do have a great pleasure in working here; they are prevented from participating in the destructive activities downtown, and have a lot more challenges here".

One may perhaps 'read' in the quotation the unstated symbolic meaning of 'the risky urbanity'. However, confronted with this statement of 'risky urbanity' the farmers did not confirm to believe in the city and urban life as dangerous and unhealthy, not until they were asked to explain the notion of 'rural values' (see below). Some

farmers, on the other hand, were talking about the dangers, threats and risks at the farm, and told about near-accident situations. They were concerned about efforts to prevent accidents at the farm. Some other farmers were concerned about the potentially negative consequences of focusing 'too much' on risk factors, saying:

"Society focuses too much on preventing risks, which implies that the child does not learn to handle them. You have to take risk so that you may learn and grow. It is not 'the end' to get a wounded knee" and "Nowadays parents and 'society' focus too much on preventing risks".

Some other farmers are worried about the effect of standardization of the quality systems, which might decrease the chances of the youth taking risks, explore the landscape, coping, empowering and developing an attitude of self-reliance. A third group of farmers worries more about accidents among children and groups of users than about the effect of risky behaviour. This worry was connected to the liability of the supply business at society level: "The quality of the services is of greatest importance for the future; if the public should pay for it, they (the children and youth) have to be secure and safe". In this context 'safe and secure' means physically and materially safe and secure from accidents and dangers in the external environment.

With respect to the formula 'safe and secure' the farmers in general talked more about risk and near-accidents than the salutogenic aspects of 'safe and secure'. They did not very often mention the formulation of 'safe and secure' directly. Nevertheless, in the interviews farmers talked more frequently about relations: social relations between user and farmer, between user and animal, and between user and other users. The quotation below illustrates both the aspect of relationship and the aspect of coping and empowering of working on farms:

"The best thing for the youth is having an adult listening without disturbance and intermingling with a lot of other pupils. He may have instruction on his own and the chance to do the work task at his own speed. It is a great pleasure to see how they handle the challenges and grow. They get a lot more self-confidence on the farm".

This quotation implies the consciousness and skills of the care farmer with respect to the lay beliefs about the importance of experience of control and flexibility in everyday situations in promoting self-esteem and to grow.

Comparable situations are described with children gaining from caring for farm animals. The practices of FH represent some overwhelming and impressive stories of how children and youth do attain self-confidence and grow through caring for and working with farm animals.

A particular approach focuses on the question to what degree farm animals must be productive with respect to agricultural production of milk, meat and fibre. The issue concerns the role of the farm and farmer and is one of the difficult questions with regard to organize and finance welfare services. A byword of the phenomenon described here is 'therapeutic animals' or 'care animals', meaning the main function of the animal on the farm is to serve welfare services. We will discuss this implication below.

The interesting result about the different arguments is that the lay beliefs about the qualities of FH are probably just indirectly connected to farming as an

agricultural production business. They are probably more strongly connected to the general aspects of quality of life based on symbolic categories about the lay beliefs and myths of the countryside in general like opportunities for being 'safe and secure' and to having support and good relations to adults.

Neither 'safe nor secure' nor 'relations to adults' are exclusive farming characteristics. The general aspects of nature-oriented salutogenics, like fresh air, are at the bottom of the list. In the interviews the farmers never mention fresh air as an argument for the salutogenic aspect of the services at all, but they often mentioned the surroundings being close to nature as a mixed qualification of space, 'time' and coping-challenges:

"The farm arena covers many challenges, you may walk around and discover new places and challenges and surprises every day".

The 'safe and secure' argument is one we consider as founded on a myth, or more a byword inherited and handed over by generations. This argument is rooted in a traditional way of thinking about the countryside as a place where you can be safe and secure (Villa 2005) as opposed to the urban environment and the illusion: "In the countryside no harm will hit you, people are relatives, friends and good neighbours, and therefore take care of each other". It may also be a kind of 'discourse' about FH, in-reflexively, rather than being a kind of symbolic statement of the representations handed over by generations and deep rooted in our beliefs. The on-farm resources in the form of the salutogenic effect of plants and horticultural activities are rarely mentioned but they are indirectly, like "healthy outdoor activities", "tasks of crop production etc".

BELIEFS OF PROFESSIONALS ABOUT SALUTOGENIC ASPECTS OF FARMING

In the survey we did not examine the beliefs of the health professionals about the quality of welfare services, and we are therefore unable to rank them in the same manner as the arguments of the farmers. We might rank their beliefs through analysis of the strength of the different arguments and of course through quantification of the most cited and valued arguments. The arguments claimed by the health professionals are gathered as data from personal interviews and analysed through qualitative techniques.

The different arguments used by health professionals are to a large extent identical to the list of statements presented in the survey. This is of course also due to the fact that many of the farmers are health professionals and have worked in the public-health sector for years. On the other hand, the arguments listed in the survey are not 'taken out of the air' but they are based on lay and public opinions of the arguments that are in use. The arguments are 'diffuse' and 'mixed' in the sense that they are more based on lay opinions than on scientific opinions. Still they are valid for comparing the two different groups, farmers and health professionals.

The arguments of health professionals are much like the arguments used in general and accepted as lay health beliefs about FH apart from one unique and important formulation. This lay belief, which may represent both a challenge and a

'battle' for the development of FH in the future, is used by the public-health professionals but not by the farmers. This argument is that *the farm offering welfare services ought to be a real and an authentic farm, rather than a health institution with therapeutic livestock*. This understanding is probably more a matter of course among farmers and is therefore not mentioned as important at all in the farmers' interviews.

The reasoning goes: On an authentic farm you do real work, or you participate in activities that are connected to real work. Real work is meaningful. It is meaningful for society, for the countryside and for agriculture, but most of all for the youth and the users. The user has probably never participated in real work before or has missed participating in occupational work. This means that youths are integrated into real society in a qualitative way that is different from their earlier experiences.

The underlying argumentation is that the welfare state has failed on a range of tasks: It has failed in school and education sectors, shaping the circumstances for developing 'losers' and 'maladjusted'. It has failed in this sector by focusing on theoretical knowledge rather than practical skills. It has failed by focusing on abstract knowledge rather than concrete problem-solving connected to reality. It has failed in health sectors relying on the reduction model of medicine rather than a bio-social-cultural model of health science, on medicalization rather than strengthening the possibility for man to choose the right health attitude, on treatment instead of preventing illness and promoting health, etc. It has failed by focusing only on effectiveness and economic parameters rather than on social factors and including procedures for letting people into the labour market. This list may be both longer and more complex. The lay health argument about the salutogenic aspect of animals is not presented as an argument separately by health professionals, but as one of several aspects of treatment packages. An interesting outcome linked to this welfare-state-failure hypothesis is formed by the lay beliefs about farming as a solution for many of the welfare-services failures.

It is obvious that we find these positive attitudes and arguments about FH among those representing the municipal authorities that have experience of and demand for such services. Some other representatives are negative and the argumentations are focused on either economic or professional matters, bound to the fact that the municipality itself carries out the health-care services. Alternative health services are more accepted in society at a general level.

FARMERS MOTIVES FOR OFFERING HEALTH AND WELFARE SERVICES

In the survey the farmers were asked to consider a battery of statements about the motives for establishing the agricultural welfare services of their own, ticking to what extent they agreed. We find the agricultural business arguments for offering welfare services in the question "What is the importance of the following to your provision of welfare services?" (Table 2).

Table 2. Farm business motives for offering welfare services

Statement	Of high importance
A better income from the farm	61
Opportunity to combine farming with my training/qualification	48
Share rural values and interest with the community	40
Good for raising my own children	40
Working together with spouse or other family members	35
Want to find new enterprises to support farming	33
Combine an income on the farm with caring for my own children	31
Maintaining existing buildings	29
Obligation to the farm	18
Lack of alternative job opportunities	12

Source: Green Care survey 2003 (Fjeldavli and Meistad 2004)

There were four possible answers to statement: "High importance", "Some importance", "Little importance" and "No importance". Table 2 shows that the economic motive is the most important among welfare farmers with respect to offering services, followed by the opportunity to combine education and occupational experiences with farming. The factor registered as "share rural values with society" comes third and is an interesting result with respect to the multifunctionality of agriculture. Farmers believe farming to be a common valuable good for society at large.

For further analysis, we split the expressed motives into positive and negative factors. The negative factors are external pressure to act, while positive factors are forces or opportunities for activity. Table 2 only contains two negative factors: obligation to the farm and lack of alternative job opportunities. These are found at the bottom of the ranking list, indicating that they are of minor importance as driving forces for establishing welfare services. This means that welfare farmers are mainly being encouraged rather than forced by developments.

To follow this analysis even further, we may divide the statements in Table 2 into three groups: motives of self-realization, job-seeking motives, and contextual factors (Spilling 1998). In the welfare-service survey, we find motives of self-realization appearing as numbers 2, 3, 4, 5 and 7 in the ranking list. Job-seeking motives can be recognized as numbers 1, 6 and 10, while contextual factors are found as numbers 8 and 9. This implies that except for the motives of a better income, motives of self-realization are dominant among welfare farmers.

It is interesting that both individual (better income) and collective (rural values) motives top the list. In the interview we asked the farmer to go thoroughly through the meaning of rural values. We have sorted and added some statements of rural values, which are summed up as "empathy for: small-scale farming, multifunctional farming, countryside and rural living, nature and relaxing atmosphere, and 'alternative' and simplicity lifestyle". The contrast to "urban values or urbanity" or the more diffuse "misery of globalization" is clear. This is to some degree a paradox

of the outcome of analysing the statement of 'safe and secure', reminding of the complexity of lay beliefs, tacit and 'everyday' knowledge.

In Table 3 we present the result of analysing the arguments concerning lay beliefs of the effects of FH at societal level. The ranking in Table 3 reflects two major areas in Norwegian national policy in the last decade: priority for treatment of mental illness and for school and teaching reforms. These national policies imply new budgets, and welfare service farms have been developing 'just in time' to meet some of these demands. There is a long tradition in Norway of farmers taking care of children with family problems and this tradition is now included in the welfare services. The tradition also includes teaching and educational matters.

Table 3. Arguments regarding community implications of Farming for Health

Statement	Of high importance
Variation in types of services offered to the user groups	61
Easier to combine other types of education with farming	39
Farming may be combined with caring for own children	35
Easier for the next generation to take over farming	26
Increased recruitment to farming	22
Increased privatization of public services	21
More women will take over farms	19
Reduction in economic compensation to agriculture	16
A second-rate type of business strategy	5

Source: Green Care survey 2003 (Fjeldavli and Meistad 2004)

Welfare farmers see a variety of reasons for providing the new types of services (Table 3). First and foremost, welfare farmers have identified a market in need for variation of services and a market for different types of services to be offered on farms as supplements to existing services at public and private institutions and schools. Next, they recognize the opportunities to improve their total work situation and everyday life of their family. Third, they see possibilities for better recruitment to farming in general. Potential negative implications of the agricultural policy are considered of less importance. Farmers' lay beliefs about the existing health-care services are partly a criticism of that sector. The economic and individual motives are nevertheless more important and cover the salutogenic aspects of the motives.

RECOURSES OF COMBINING CARE, AGRICULTURE AND PLACES CLOSE TO NATURE

The categories that are relevant for sorting the different arguments are referred to as 1) social support and social relation; 2) meaningful activities; and 3) experience of control of (everyday) life. The lay beliefs about the salutogenic factors of FH are closely linked to general lay and scientific beliefs about healthy, salubrious and healing in modern societies. The general lay beliefs are composed of former and

aggregated knowledge, social and personal scientific and everyday experiences of health, illness and salutogenic aspects. The lay beliefs about working and occupation activities as healthy and empowering are but key assumptions of the policy of the welfare state based in central norms systems of modern societies.

The lay beliefs about working as healing and salubrious are founded on central and deep-rooted norms of society. Practical outdoor work has been valued even higher within the arenas of mental treatment and medical knowledge over a long run in medical history. The beliefs are based on former but abandoned scientific knowledge of mental diseases and on modern social norms. By developing the agricultural welfare services this knowledge might be 'dusted' and implicate the organization of welfare services. The general lay beliefs about health as affected by outdoor activities, exercise and sporting in surroundings close to nature are well accepted norms. Much of the activities and organization on farms are founded on such beliefs. These beliefs are based on valid healthy norms of society like doing exercise, sports and participate in activities. Today this norm is revitalized through the curriculum in school and kindergarten. There is a growing interest in outdoor activities for healing, relaxing, learning, experiences, risk taking, growing, etc.

Some arguments about the social relations to farm animals are original with respect to farming as healthy but studies of individuals caring for pet animals (non-farm animals) have, however, found a positive effect as well. The animal-relations argument only indirectly explains the farming aspect of such lay beliefs.

The social-relationship treatments are accepted within medical science of mental illness, although this statement may be disputed. At a theoretical level, the school medical science supports the social-relation hypothesis. However, theoretical acceptance does not automatically provide practical reorganizations of care systems, nor a preferred public policy. Farming for Health is a quite new, fresh and exciting effort, of which many representatives of health-care departments have not yet heard.

The most challenging outcome is the variance in arguments between the health-care professionals of the public authorities and the farmers. While farmers focus on the general lay beliefs of social relations, healing by working and a well-arranged environment, health-care professionals stress the benefit of the farm as an occupation of primary production. This type of arguments claims the farmer to be 'real' and the farm to be authentic in order to optimize the services as salubrious.

Compared to traditional farming, offering and selling welfare services implies that the role of the farmer and of the farm is transformed or extended. These roles vary within the concepts in use and the welfare-service practices. The central question concerning the lay beliefs is about the farmers' skills and qualifications and the opportunities for combining the skills of farming and the skills of caring, healing, training or teaching. These concern one of the negative arguments, namely those of the farmers as unprofessional health-care providers. To figure out this dilemma studies of the effects on and the outcomes for people using the services must be carried out.

Implications of agricultural welfare services may affect the degree of sympathy for agriculture and farmers, and in the longer term recruitment into agriculture and increase the legitimacy of agriculture. The farms are producers of potentially common goods that will be demanded in the future. In this perspective the farms are

'unused/untouched' areas laying there as a 'natural' resource inviting society and rural community to take part in the agricultural atmosphere and work. Borrowing the concept of the process of 'bio-prospecting' from a discourse analyse (Svarstad 2003) of seeking medicinal plants, we formulate the phenomenon of welfare services as a kind of 'agro-socio-prospecting'; meaning that farms and farming are in a given social perspective caught sight of as a *common good*. Agricultural welfare services are indeed among the multi-functions of farming. The challenge is to secure the services by reaching the political goals of better quality of life and health.

NOTES

- ¹ About 2/3 of the welfare farmers are female (Fjeldavli and Meistad 2004)
- ² The welfare farmers score higher on variety of education than farmers in general (Fjeldavli and Meistad 2004)
- ³ A great variety of services is provided on Green Care farms; 301 of 327 units are in education, 261 in training people with illness or disabilities, and 184 for supportive childcare. There are services for adults in need of employment, old people with diagnosis of senile dementia, even a few ones accommodate for criminals
- ⁴ The literature also presents a huge range of splendid histories of medicine (White 1991)
- ⁵ In order to try to address this problem more attention is now given to communication skills and the behavioural sciences within the medical curriculum. However, there is still some way to go

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CHAPTER 7

THE CONTRIBUTION OF CARE FARMS TO LANDSCAPES OF THE FUTURE

A challenge of multifunctional agriculture

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Abstract. In the European context, multifunctionality is considered one of the goals of agriculture. It can present an alternative strategy besides the dominant trend to minimize labour input. Production of food can be combined with social functions, like providing space for recreation, the care for landscapes or the care for disabled or less privileged people. This chapter considers the question whether the approach to Farming for Health could also include care and therapy for nature and landscape. It appears from sociological surveys that landscape quality is generally associated with small-scale farming. On the other hand, the reasons for farmers to take care of nature and landscape consciously much depend on personal motivation. Traditional family farms usually have less time and financial support to integrate such aims than farms that integrate clients in their farming system. A survey among 48 German care farms with former drug addicts – only few of them traditional family farms – confirms that a majority of them regard landscape and nature management as preferred activities for their clients. The sense of handwork, the great variety of different tasks, natural rhythms of growth, the connection to nature and the contact with animals are reported as significant contributions to restore identity and self-esteem. Taking this seriously, Farming for Health has a large potential to enhance landscape quality.

Keywords: care farm; multifunctional; landscape quality; landscape perception

FARMING FOR HEALTH AND MULTIFUNCTIONALITY OF AGRICULTURE

During a discussion about the term ‘Farming for Health’ at the conference in Vorden in April 2004 some of the participants stated that the problem with this term would be that ‘farming’ today is considered mainly *exploitation of the land*. The modern way of farming needs little labour compared to the situation only some decades ago but causes environmental problems as side-effect (Green and Vos 2001).

The term ‘Farming for Health’ (FH) summarizes a wide spectrum of different kinds of social agriculture, such as care farms that integrate disabled people or

former drug addicts into their farming system, or farms that integrate children or pupils or older people (see other chapters in this book). But only some decades ago farming in general had many social functions and was less focused on the mere production of cash crops than today. Moreover, farming contributed to the diversity of rural or 'cultural' landscapes and their richness of species, whereas the image of modern farming techniques is that they are responsible for the decline of many plants and animals in the landscape.

Multifunctionality is considered one of the future goals of agriculture that could counterbalance a further reduction of expensive human labour (Dramstad and Sogge 2003). Such multi-functions can be to combine the production of food with social functions, like providing space for recreation, the care for landscapes or the care for disabled people (Lenhard et al. 1997; Keser and Van Elsen 1997). Could the approach to FH also include care and therapy for nature and landscapes? Are there already examples of combining such aspects of multifunctionality? And, first of all, can multifunctionality play a role in enhancing a feeling of identity?

MULTIFUNCTIONALITY OF AGRICULTURE AS SOLUTION FOR A LOSS OF IDENTITY?

Research suggests that the relationship people have with nature and landscape also forms their opinions about it and thus constitutes part of their identity. Loss of identity is one of the problems experienced in the care for former drug addicts and other less favoured groups in society. Referring to this relationship of people with nature and landscape, farmers in The Netherlands, for example, appear to have a predominantly functional landscape image with highest preference for well-kept nature with meadow birds and for grassland rich in flowers. Ecologists and tourists on the other hand prefer the more arcadian landscapes or the 'official' nature reserves, with rugged and water-rich nature. Farmers also much more appreciate the nature value of grasslands than ecologists (Aarts and Van Woerkum 1994).

But not only farmers have a functional relationship with landscape. Also lay people in their spare time can develop such a functional relationship, like, e.g., anglers, hunters, bird-spotters and landscape-management volunteers. Filius et al. (2000) put out 240 questionnaires (response 78%) in these groups. The results indicate that the definition of nature differs between these Dutch population groups, reflecting their personal experiences and needs (Figure 1). Whereas the vast majority of people regard swamps as real nature, almost half of the anglers have a different opinion. Especially birdwatchers are very critical of commonplace birds (starlings and pheasants), whereas meadow birds apparently symbolize pure nature for them.

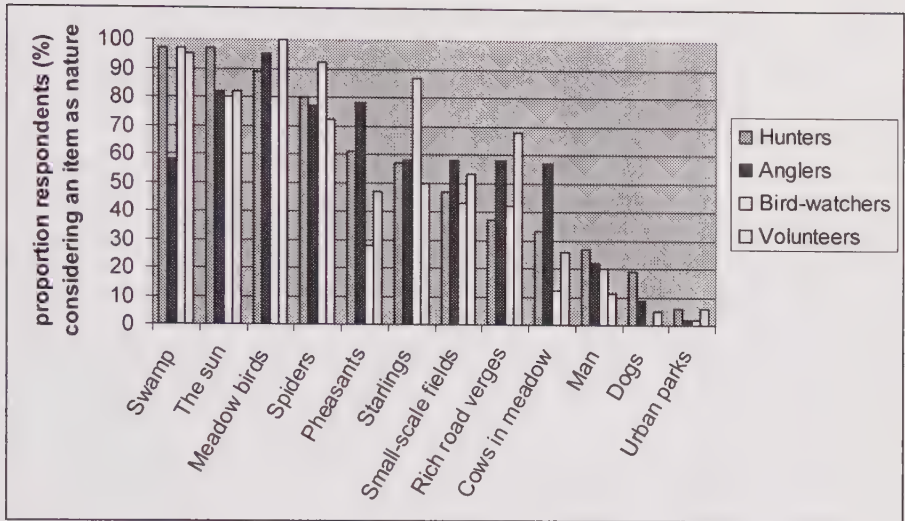


Figure 1. Proportion of respondents regarding an item as real nature (The Netherlands, source: Filius et al. 2000)

In general, hunters hold relatively anthropocentric values concerning nature and landscape (Table 1). They appreciate the functional or life-support aspects of the landscape much more than birdwatchers, who especially value the hedonistic and intrinsic values. The latter regard landscape partly as décor, but complemented with normative values on the importance of conserving valuable landscapes. Most interesting in the context of FH is the group of volunteers in landscape management activities. Their functional relationship with the landscape often concerns farmland and farmers. Surprisingly, their top priority are not meadow birds, but other, more Arcadian, features of landscape are also greatly appreciated (Figure 1). The relationship of all groups (except anglers) with agrarian landscapes seems to result in a greater appreciation of small-scale rural areas. This is exactly where FH can play a crucial role.

Table 1. Proportion of respondents agreeing with certain statements (The Netherlands, source: Filius et al. 2000)

Statements	General population (%)	Hunters (%)	Anglers (%)	Birdwatchers (%)	Volunteers (%)
People may change nature for their own needs	54	67	22	5	30
Mankind may rule over nature	22	36	23	3	0
Man-induced change of the environment causes serious difficulties	85	67	64	87	80

FARMING FOR HEALTHY LANDSCAPES

The appearance of cultural landscapes in Europe is strongly influenced by agriculture (Van der Ploeg et al. 2002). For example, about 50% of Germany's land is farmed land; including forestry even more than 80%. Today only 3% of the population is engaged in agriculture, creating the landscape for all others. Landscape is a production area for farmers. But landscape is also a place for living, working, home, experience, recreation, moving through and making connections.

In former times cultural landscapes were a by-product of an 'agri-culture' with lots of handwork, whereas today a diverse and aesthetic landscape is preserved and developed only by active decisions and means. Even on organic farms cultural landscapes do not appear automatically as by-products of organic farming methods.

The conversion to organic farming can be the starting point for higher biodiversity. The realization of this potential depends on whether the farmers recognize nature and landscape development as objectives of their farming style and whether they succeed to integrate these into their agricultural practice. During a project 'Optimizing nature conservation on organic farms' (supported by the German Federal Agency for Nature Conservation with funds of the Federal Environmental Ministry) farms that implement approaches of nature conservation into their practice were investigated (Van Elsen et al. 2003): What are the intentions of these farmers to deal with questions of nature conservation and landscape development, and, furthermore, to create and develop their landscape actively? Which circumstances allow such initiatives? What are the motives behind them?

The following hypotheses were the starting point of this investigation:

- There are organic farms that are an exception among organic farms concerning their engagement in nature conservation and landscape development.
- The motives that lead to actions differ.
- Different ways of acting and different systems of knowledge are applied in order to find ideas and to realize means of landscape development.

Due to the lack of previous investigations an explorative approach was chosen. In various regions of Germany 13 interviews were carried out on organic farms belonging to different certifying organizations. A wide spectrum of farms with respect to size, geographical location, structure, social structure and assumed farmers' intentions were chosen. The interviews were elaborated using methods of qualitative social analysis (Mayring 1988; Strauss and Corbin 1996).

The results show that the motives of the farmers are exceptionally intrinsic in nature. Especially their relation to nature is very important. Two types can be identified, one of an 'intimacy' relation to nature, which is characterized by a close connection to nature and landscape including feelings and the ability of 'living within'. The other type is characterized by a 'more distant' relationship to nature. This confirms earlier research on the relationship of people with landscape and nature (e.g. Van den Berg 1999; Luginbühl 2001).

With respect to the reasons for acting, again two types can be found: the protection of endangered plant and animal species and biotopes on the one hand and a phenomenological approach with a strong connection and reflection of own experiences on the other. Such farmers more strongly have the whole farm in mind.

One interesting result was that traditional family farms usually have less time and financial support to integrate such aims than farms that work together with clients in their farming system.

CARE FARMS FOR FORMER DRUG ADDICTS

Based on these results an investigation was set up in 2004/2005 to get an overview of German farms integrating former drug addicts and their therapy, and of the engagement of such farms in landscape development and nature conservation (Günther 2005). The benefit of such farms for society is quite obvious: working on a farm can offer new perspectives for addicted people and can support therapy, which makes integration of these clients into society easier. The hypothesis of the investigation was that, at the same time, such care farms can also contribute to landscape development and nature conservation.

Ninety-seven questionnaires were sent to care farms with former drug addicts all over Germany. Fifty-two per cent of these could be used for the survey, 28% of the institutions did not answer and 16% answered that the amount of their farming activities was not comparable to a full size farm.

Table 2 shows the size of the farms that integrate clients. The smallest farm has a therapeutic garden of 200 m² with a glasshouse; the biggest is 230 ha; the average is 36 ha. Of these farms 40% are organic and 44% conventional.

Table 2. Size of the farms that integrate clients (n = 48)

Size of the farmland		< 1 ha	≥ 1 and < 10 ha	≥ 10 and < 50 ha	≥ 50 ha
Number of farms		7	18	10	13
Proportion of total surveyed (%)		14.0	36.0	20.0	26.0
Area of farmland (ha)		0.52	4.30	20.64	102.48
Area of arable land (ha)		0.31	1.43	9.25	46.93
Area of grassland (ha)		0.07	2.80	11.01	53.32
Structure	Parcels united	5	11	2	5
	Parcels partly united	0	1	6	5
	Parcels spread	0	4	1	3
Method	Organic	3	5	3	9
	Conventional	1	12	6	3
	Other	2	1	2	1

Almost all of these farms belong to a hospital or an institution for rehabilitation or social therapy. They receive an important amount of their income for these therapeutic activities; the income of the agricultural products is mainly used to

finance the farm. Most of the farms grow labour-intensive crops like vegetables and potatoes. Only farms larger than 10 ha grow cereals.

The farms keep a great variety of different animals. Often small animals like chickens, geese, ducks and rabbits are kept but also pigs. Dairy cows seem less suited for clients due to the high standards and the whole dairy system being rather sophisticated and requiring precise work. Many of the products are used for own consumption, but especially on the organic farms direct selling to consumers and the use of the products for manufacturing (bakery, cheese production, etc.) also play an important role.

On most farms 5-10 or 11-20 clients are integrated (Figure 2). Only few farms integrate clients into traditional family farms. In most cases the clients stay on the farms for several months, often up to one year.

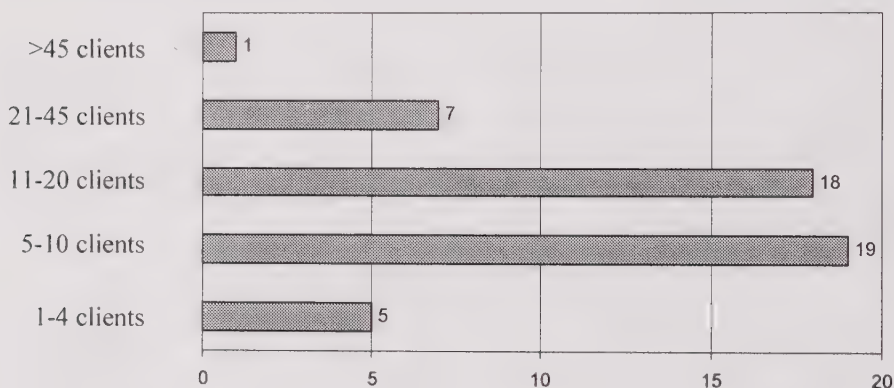


Figure 2. Number of clients (former drug addicts) on the farms

The main aim to integrate former drug addicts into the farms is to offer them economically relevant work and a meaningful occupation with therapeutic effects (Figure 3). Also the capabilities of the clients to live an independent life will be supported. Almost all questionnaires state that the qualities of work on farms are especially suited to reach that goal, like transparency of the sense of handwork, a great variety of different tasks, natural rhythms of growth, the connection to nature and the contact to animals.

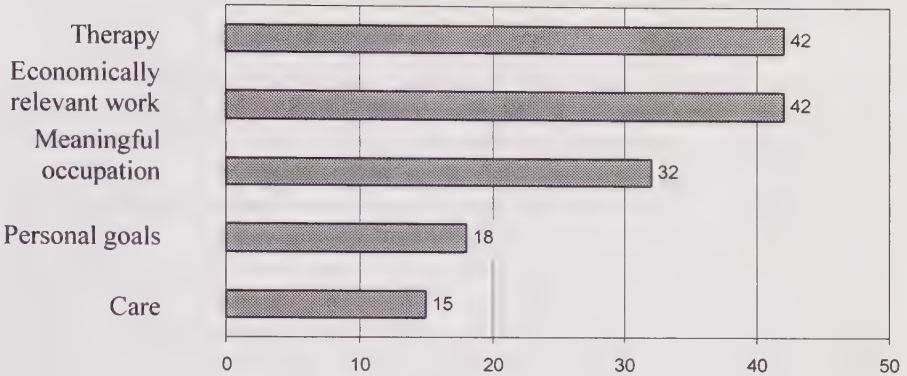


Figure 3. Functions and aims of agricultural work for clients (as percentage of clients reporting)

The clients are mainly occupied in labour-intensive fields of activities, like keeping animals, gardening and also landscape care (Figure 4). Integrating clients also influences the structure of the farm: a large amount of handwork, a diversity of different fields of activities, and simple structures of the schemes of work are needed to deliver a sufficient occupation for the clients. Also enough time for care is needed to combine the therapeutic goals with food production.

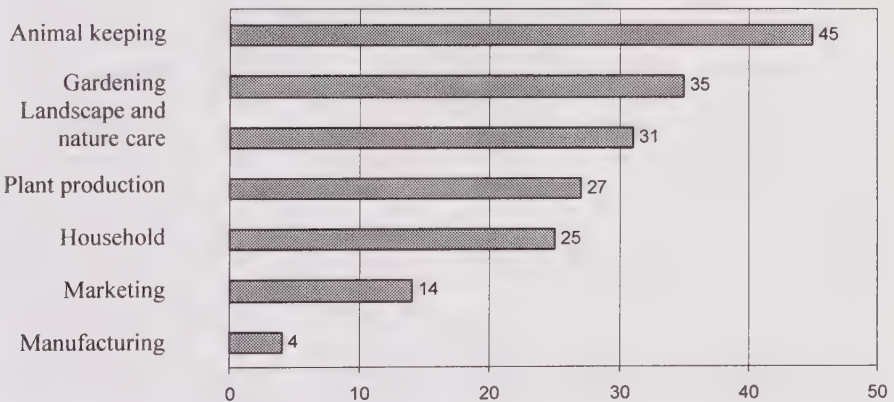


Figure 4. Occupation of clients on the farms (percentage of clients engaged)

CARE FOR LANDSCAPE AND NATURE DEVELOPMENT ON CARE FARMS FOR ADDICTED CLIENTS

In general, the examined institutions show a great interest in landscape care as a field of activity for their clients. More than 70% of the farms deal with such activities, especially planting hedgerows or taking care for orchards and for different biotopes. Furthermore, clients work in the forest and care for the surroundings of the institutional buildings and public places. Concerning these activities there are small differences between organic and conventional farms.

Half of the examined institutions think that farms with clients are especially suited for activities related to nature conservation and landscape care (Figure 5). More than 60% of the farms are active in protection and management of biodiversity. Concrete measures are the conservation of species-rich grassland, the care for orchards with rare or local varieties and also keeping rare and endangered animal husbandry breeds. Eighty-five per cent of the organic and 50% of the conventional farms integrate such activities into their system.

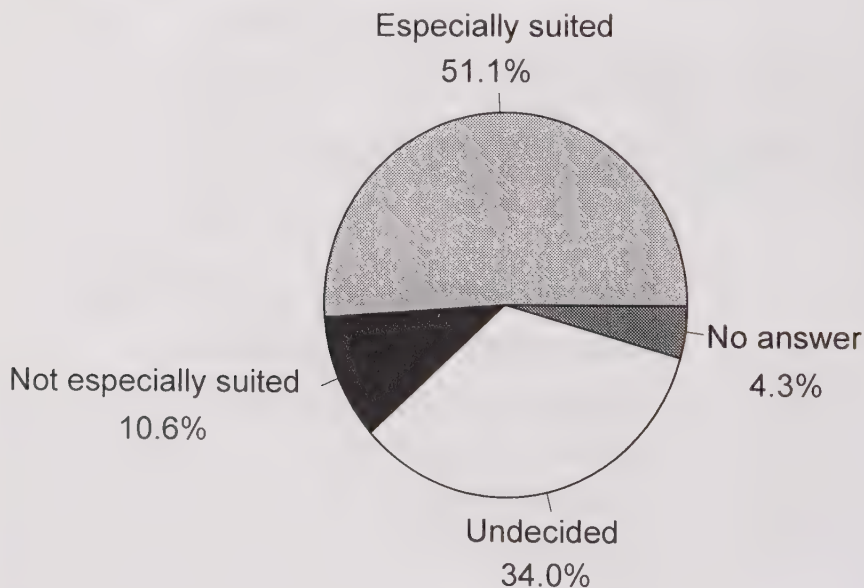


Figure 5. Are farms with clients especially suited for activities in nature conservation and landscape care? (n = 57)

PERSPECTIVES FOR THE FUTURE: PETRARCA – THE EUROPEAN ACADEMY FOR THE CULTURE OF LANDSCAPE

The European Academy for the Culture of Landscape (Petrarca) was founded in October 2000 (<http://www.petrarca.info/>). The initiative is reflected in the “Landscape manifesto” which was created at the international conference ‘The Culture of the European Landscape as a Task’ (Bockemühl et al. 2000; Pedroli 2000) and has a strong inspiration source in the European Landscape Convention of the Council of Europe (2000). Petrarca is an independent, non-governmental organization, registered at the Louis Bolk Institute (Driebergen, The Netherlands) as a multi-centred international initiative. The registration in other European countries is in preparation.

Several members of Petrarca are engaged in a new culture of landscape through organic farming. One basis is the EU concerted action ‘The Landscape and Nature Production Capacity of Organic/Sustainable Types of Agriculture’ (1993-1997), in which 25 participants from 9 European countries worked on the assessment of sustainable land use for the cultural landscape (Van Mansvelt and Stobbelaar 1997; Van Mansvelt and Van der Lubbe 1999).

One main topic of Petrarca’s work is the participatory approach of organic farms where farmers not only produce healthy food but also strive for a diverse and aesthetically pleasing landscape. In landscape seminars which include many stakeholders the participants are ‘helped to help themselves’ in work on aspects of planning and development of their cultural landscape.

Petrarca’s work is connected to the intention to evaluate nature conservation and cultural landscape as marketable products of agriculture. One of the aims is the appreciation of these products of organic farms not only by society but also by farmers. This development is held back by ideologies striving for maximization of production, considering agri-environmental schemes primarily an income support for farms. Landscape seminars on farms are seen as an approach to create examples of farms that integrate the aims of nature conservation into organic farming. This means a bottom-up approach for a sustainable development of European landscapes. People living and working on farms become connected to their places, to nature and to the landscape. Farms become seed points for a sustainable landscape development. In combination with FH, approaches like this can lead towards new perspectives for sustainable farming for healthy people and for healthy landscapes. Care farms are especially suited to combine these two issues of multifunctional agriculture.

Exemplary of this approach are the seminars with people of the ‘Bioland-Ranch Zempow’ (Schäkel and Schürger 2001).

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CHAPTER 8

LONG-TERM CARE IN EUROPE

An introduction

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Abstract. A European overview of the situation of long-term care faces the problem that this type of care is mostly organized at local level. It is therefore rather difficult to make a comparison between countries and to give a European overview. Overall figures hardly exist due to this difficulty. On the other hand, the present challenges and future trends are rather similar in the various countries.

Keywords: long-term health care

INTRODUCTION

There is a strong relationship between long-term care and Farming for Health (FH). Most of the persons who benefit from FH are elderly people, persons with mental and physical handicaps and persons with psychiatric handicaps. Most of the clients belong to the target group of long-term care. It is not surprising that long-term care is one of the major sources of income of FH.

Long-term care is understood as a well-planned and well-organized set of services and care processes, targeted at the multi-dimensional needs/problems of an individual client or a category of persons with similar needs/problems. Elements are home nursing and long-term health care, social care, housing, and services such as transport, meals, occupational activities, empowerment activities, etc.

The exact meaning of 'long' differs from country to country. It is not so much defined by the length of the period as by the functions and services. If in The Netherlands you receive one week home help, it is still called long-term care.

What do we really mean when we talk about long-term care? Persons with physical or mental handicaps and frail elderly need support and help in their daily life activities; 80% of their demands regard assistance with shopping, small repairs in the house, help in getting in or out of bed, help with dressing, help with all kind of forms, cleaning the house, help with putting on supporting stockings, social activities, support with finding and carrying out work, contacts with other people,

help in spending the day: activities that ask little technical but a lot of social expertise; activities that do not belong to the medical domain but the social one; activities that belong to the daily life domain.

DIFFICULT COMPARISON

It is very complicated to give a European overview, and hardly any facts have been aggregated at European level. Much is known for individual countries. The reasons for the lack of national and European aggregation are:

- Services are often divided between different public structures and budgets (national, provincial, regional, local), between health budget and services, and between social budget and services.
- Long-term care is highly influenced by different structures of informal and family care (Mediterranean countries have family care far above average and the number of long-term care beds is therefore far below the European average).
- Systems of long-term care are being reformed: reorganized and innovated (mostly with budget consequences) in northern and central countries and expanded in southern countries.
- Dealing with personal social services in the local context is far more important than in the national or European context.
- Nordic countries started to develop social care services already during the 1950s (undergoing marked differentiation between different types of services and institutions, professional concepts and approaches). Southern-European countries are still in a pioneering phase (difficulties regarding funding and staffing).
- There is a sharp contrast with general health care with its well-defined medical professions, differentiated competences, monitoring, registration, etc. Social services are often lacking even national regulations.

FINANCING SYSTEMS

There are two main systems of financing health care, working with public funding mechanisms, in Western Europe:

1. The Beveridge model, which is tax-funded with infrastructure of ownership and control of authorities (Denmark, Greece, Spain, Ireland, Iceland, Italy, Norway, Portugal, Finland, Sweden, UK).
2. The Bismarck system, which is social-insurance-funded and controlled by legal private organizations (Belgium, Germany, France, Liechtenstein, Luxembourg, Netherlands, Austria, Switzerland).

Some countries have a tendency towards a mixed system. Table 1 gives some examples.

FACTS AND FIGURES

Some of the most important figures are summarized below (see Table 1):

- Between 1995 and 2001 18% of net job creation took place in this sector. Average health-care expenditure in Europe is 8.4% of GDP (USA: 13%).
- Public expenditure on long-term care is 1.3% of GDP, ranging from 0.7% in France, Ireland, Austria up to 2.8% in Sweden and 3% in Denmark (Annex 1).
- Health care and social services are very labour-intensive. Employment in the health-care and social sector is approximately 10-13% of overall employment; in long-term care approximately between 3 and 5% of overall employment.

Table 1. Health-care financing (primary, secondary and tertiary) in percentages

	Taxes	Social insurance	Private insurance and contributions
Netherlands	5	73	22
Denmark	85	0	15
Norway	48	48	5
UK	64	20	16
Ireland	78	9	13
Italy	38	39	23
Greece	26	32	42

PRESENT CHALLENGES

- Long-term care is a rather young sector; laws and regulations regarding long-term care were only passed in the 1990s.
- All European countries meet the same difficulties: legislation and financing do not fit, there is no good link between cure and care, no good link between the sectors of care, welfare, housing, services and social security; responsibilities of different partners are not clear; there are gaps and overlaps where these sectors meet; sectors are divided into parts regarding the target groups (elderly, mentally and physically handicapped) and sectors are divided because professionals define their domain too strictly.
- The systems are so complex and have so many stakeholders that almost nobody has a total overview of the system. Care and services are orientated on supply, not on demand.
- Due to this complexity a new profession is arising: a whole layer of professionals 'who know their way in the complex system'. Counsellors, guides, supporters, professionals who explain and clarify, professionals who translate the demand of a client into terms of the provider, who are helping the clients, and who are often working from a local 'care and services information point'.

FUTURE TRENDS

- Hospital care is declining, which results in a bigger need for long-term care.
- A greater decentralization is taking place in almost all countries, which asks for a new coordination between stakeholders at national, regional and local level.
- It is to be expected that of the two larger streams in Europe within the long-term care discourse (one starting in the medical realm and the other starting in social services and social integration) the latter one will become more and more important. This will probably have a negative influence on regulations and funding but it will on the other hand give more freedom of choice to the individual client and the local level.
- In the future there will be changing relationships between the state, the for-profit market and the non-profit sector, with a growing share for the private and the for-profit sector. These changing relationships will give more opportunities to the entrepreneurial care and services provider.
- A greater desire for more choice and more individualized, tailor-made services will arise due to the further emancipation and assertiveness of clients.
- Ageing of the population will result in a larger demand for long-term care and on the other hand long-term care will more and more become a set of services for the elderly. At the same time there is an ageing of staff. Already in seven EU member states 40% of the nurses are over 40 years old and in five states this is already over 50%. There will probably be a shortage of care professionals in the near future.
- As a result of European regulations there will be more freedom of movement of personnel involved in services, and long-term care tourism will become a normal phenomenon. Some Dutch care providers have already set up care provisions in Spain, where elderly get their care and services while enjoying the climate. Insurances cover this care tourism under the same conditions as they apply in The Netherlands.
- There will be the introduction of social markets. These new organizational forms in long-term care are characterized by two innovations:
 - the insertion of competitive rules in the relationship between public financiers and private service providers, and
 - the encouragement of the capacity of self-organization of members of a given community.
- Citizens and families will be faced with more market and more choice, especially in the form of cash benefits and vouchers for users or client-led brokerage by local authorities.

CONCLUSIONS

The following conclusions can be drawn regarding the relationship between long-term care and FH:

- The future will be characterized by cooperation or competition between public and private providers at the local level; care farmers will have to deal with these new relations and will have to join cooperation or competition.
- Entrepreneurial behaviour and the promotion of this behaviour will enhance the breaking up of the traditional bureaucratic organization, of traditional provisions and traditional professions. This will give care farmers more opportunities.
- The stronger orientation of long-term care towards social services and the weaker bonds with the traditional medical realm open new possibilities for Green Care and FH.
- In view of the demographic changes and the ageing of the population it would be wise not to take mainly the handicapped (as it is done nowadays) but also the elderly as an important target group, not only because of the demographic trends but also because of their political pressure (45% of the voters are over 55 years old and elderly are true voters) (Annex 2).
- Elderly will more and more use their capital (invested in houses) to buy care and services. The idea of leaving your possessions to your children is disappearing at a rather high speed.

AVAILABLE WEBSITES

http://publications.eu.int/index_nl.html
<http://www.euro.who.int/observatory/hits/toppage>
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Annex 1. Total public expenditure on health and long-term care as percentage of GDP for the year 2000 (European Centre Vienna 2004)

	Total health and long-term care		Health care		Long-term care	
	2000	Increase in % GDP, 2000-2050	2000	Increase in % GDP, 2000-2050	2000	Increase in % GDP, 2000-2050
Belgium	6.1	2.2	5.3	1.4	0.8	0.8
Denmark	8.0	3.1	5.1	0.9	3.0	2.3
Germany			5.7	1.7		
Greece			4.8	1.6		
Spain			5.0	1.6		
France	6.9	2.1	6.2	1.6	0.7	0.5
Ireland	6.6	2.5	5.9	2.3	0.7	0.2
Italy	5.5	2.0	4.9	1.6	0.6	0.4
Netherlands	7.2	3.5	4.7	1.2	2.5	2.4
Austria	5.8	3.0	5.1	1.9	0.7	1.1
Finland	6.2	3.5	4.6	1.5	1.6	1.9
Sweden	8.8	3.2	6.0	1.1	2.8	2.1
UK	6.3	2.2	4.6	1.2	1.7	0.9
EU-14	6.6	2.5	5.3	1.5	1.3	1.0

Private expenditure differs between countries, ranging from 1.3% of GDP in UK and Sweden to 2.5% in Austria and Belgium, 2.7% in Germany and 3.3% in The Netherlands

Annex 2. Percentage of voters over 55 year in the EU

	Year 2000	Year 2020
Austria	34	43
Belgium	34	43
Denmark	34	44
Finland	32	44
France	32	40
Germany	37	45
Greece	36	40
Ireland	26	31
Italy	35	44
Luxembourg	35	45
Netherlands	31	42
Portugal	31	38
Spain	32	39
Sweden	36	42
UK	34	41

The percentage of non-voters in the over-55 group is in all countries lower than the percentage of non-voters in younger age groups.

COUNTRY STUDIES

CHAPTER 9

GREEN CARE IN NORWAY

Farms as a resource for the educational, health and social sector

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Abstract. In Norway, Green Care comprises farm-based services to schools as well as health and social care. Farms can be used to host a wide range of activities, such as kindergartens, after-school programmes, school projects and theme assignments, education adapted to pupils with special needs, activities and tasks designed for psychiatric patients, mentally impaired and elderly with dementia. Green Care farms can also assist child-welfare authorities, e.g., by acting as day-care centres or foster homes. Three case presentations of service farms are given. As a large fraction of Norwegian farms are rather small, they are well suited for such services, which in most cases are paid by the local municipality. The county departments of agriculture provide advice and help in developing quality-assurance tools for the Green Care services and their physical environments. For persons with mental disorders, e.g., a psychiatric institution has the professional responsibility. Scientific research on Green Care is performed at two institutions. The Centre for Rural Research has conducted a nation-wide survey of Green Care farms. At The Agricultural University of Norway, research focuses on effects of working with farm animals on persons with mental disorders, and on health effects of plants indoors and in the working environment. This university also gives courses on Green Care at Bachelor level and as continuing education to farmers and health personnel. The chapter ends with a discussion on future challenges related to Green Care.

Keywords: animal-assisted therapy; dementia; human-animal interactions; indoor plants; multifunctional agriculture; rural communities

INTRODUCTION

Defining Green Care'

In Norway, other terms are also used to denote the concept of 'Green Care', such as *Inn på unet* ('on the farmyard') or 'farms as a pedagogical resource', when it comes to schools using farms as an arena for teaching or other activities. In this article, all of these are defined as Green Care.

Green Care combines farm resources with society's need for alternative arenas. On such Green Care farms, meaningful activities are organized in a stress-free

environment, focusing on learning via practical challenges and experiences. On these farms, there is always useful work to be done, independent of the users' varying health conditions or motivation. On these farms, it is possible to experience classroom theory through practical work.

A recurrent theme of many Green Care programmes is the social training and interaction, as well as the sense of belonging experienced among the programme participants. For example, it is common to arrange one or several joint meals each day, gathering everyone on the farm.

Farms can be used to host a wide range of activities, such as kindergartens, after-school programmes, school projects and theme assignments, education adapted to pupils with special needs, activities and tasks designed for psychiatric patients, mentally impaired and elderly with dementia. Green Care farms can also assist child-welfare authorities, e.g., by acting as day-care centres or foster homes.

Each new initiative is designed according to the needs of the users, and in accordance with public priorities and the farm's and farmer's resources and potential. The quality of the provided services depends on successful cooperation between the farm and the municipality and society in general. Green Care services are intended to have a 'win-win' effect, in which all parties benefit from the programmes. Green Care shall increase the well-being of its users, provide better services to its clients (local governments) by improving the utilization of available resources and secure increased income for the farmer.

By now, numerous experiences of how to establish satisfactory Green Care services have been documented. Many of these are presented on the website www.innpaatonet.no, as case studies and guidelines for farmers and public-service experts.

BACKGROUND

Agriculture in Norway

Norway is the northernmost country in Europe. The distance from the country's northern to its southern tip is as great as the distance between Oslo and Rome. Due to significant climatic variations, farming conditions vary considerably within the country, e.g., between North and South. Whereas vegetables and fruit are primarily grown in southern Norway, livestock farming is most common in the North, i.e., sheep, cattle and reindeer husbandry. In the past 30 years, Norwegian farm policies have 'channelled' most of the ruminant livestock to areas that are not suited for grain or vegetable production, i.e., northern and western Norway and other mountainous areas.

Only 3% of Norway's total land area is cultivated land (approximately 1 million hectares), and 22% is covered by forests. The remaining area is mainly mountainous, much of which is above the tree line. In addition to producing safe, high-quality food, Norwegian agriculture also contributes to maintaining the rural population and business activities throughout the entire country. Farming activities help to maintain viable rural communities. Norwegian farm subsidies vary between

different parts of the country, depending on the natural conditions. The aim is to compensate for poor competitive conditions, thus enabling the continuation of farming activities and settlement in all parts of the country.

Recent developments

In the past decades, Norwegian agriculture has gone through a rapid development towards increasingly fewer and more efficient farm enterprises. In spite of this development, the total farmland area has not decreased. The number of farms in Norway has been more than halved in the past 25 years. In a European context, Norwegian farms are small, with an average of less than 20 ha cultivated land. Average herd sizes on livestock farms are 17 dairy cows, 40 breeding sows and 50 winter-fed sheep. Most farms also have forest land, and a large share of the timber harvest is carried out by contractors with modern machinery. However, wood is widely used as a source of fuel in the long, cold Norwegian winters, and much of the firewood is still prepared manually.

Presently, there are about 55,000 farm enterprises in Norway. However, there are more than 150,000 properties that are classified as farm estates. Total employment in agriculture is about 70,000 man-years, or about 2.8% of the country's total work force. Many farms are run part-time, implying that a certain share of the total farm-family income is derived from off-farm employment. In 2002, off-farm employment was the main occupation for more than 40% of the part-time farmers.

Norwegian agriculture well suited for Green Care

Within such a farm structure, many farmers are trying to utilize all of a farm's resources, and not only for traditional agricultural production. Empty buildings and idle machinery can come to other uses than originally intended for. Many farm couples would like to earn as much of their income as possible on the farm, but this is often impossible to achieve from traditional farming activities alone.

Certain aspects of Norwegian agriculture make it relatively easy for outsiders to take part in farm operations, without the feeling of being on a large-scale farm 'factory'. These aspects include their small size and wide range of products, relatively small machinery as well as a number of operations still being conducted manually.

Health and welfare services in Norway have changed in recent years – from focusing on centralized institutions to providing services in the users' local communities. Other important guidelines are individual adaptation and a broad range of services. The concept of Green Care complies well with this trend.

Public responsibility for welfare

Norway is divided into three administrative levels: the state, counties ('fylke' in Norwegian) and municipalities. There are 19 counties and 434 municipalities. The latter are responsible for, among other things, kindergartens, elementary schools and

care services. The municipalities are also in charge of primary services in the health and welfare sector. The county authorities are responsible for such services as secondary education and local/regional public transport. Specialist health services are run by the state, and are organized as five regional enterprises.

There are significant differences between municipalities with regard to their geography, area and population. More than half of the municipalities have less than 5000 inhabitants, and 12 have a population exceeding 50,000. This makes it difficult to discuss a 'typical' Norwegian municipality.

Municipal and county activities are of great importance for the welfare of individual citizens. These two administrative levels account for about 60 percent of the public services presently provided in Norway. As a result, most of the services provided in the educational, health and welfare sector have been operated by the state, and few such services have so far been outsourced.

For Green Care, this implies that in most cases the municipality or the county would be the buyer of a specific service. In other words, each farmer must enter into an agreement with either of the two authorities.

ORGANIZATION AND QUALITY ASSURANCE

General organization

Green Care requires extensive cooperation between several ministries. At a national level, an inter-ministerial committee has been established, which is chaired by the Ministry of Agriculture. The committee also has representatives from the following ministries: Education and Research; Social Affairs; Health, Children and Family Affairs; and Local Government and Regional Development.

An important issue for the county departments of agriculture is business development. The county departments have thus urged the local governments to consider agriculture a new arena for developing measures in the educational, health and welfare sector. Furthermore, the county administrations have also helped to develop quality-assurance tools for the cooperation between farmers and municipalities, and provided capacity-building activities such as courses and professional seminars.

Cooperation between farmers and the local and county governments

The municipality is usually responsible for assuring the professional quality of the provided service. It is thus important to prepare new initiatives thoroughly, and to make sure one finds a suitable farm(er). Before any farm service can be defined as Green Care, a written agreement must be made between the farmer and the buyer of the services. The agreement shall address such issues as guidelines for contents, quality requirements, division of responsibilities and designation of various functions (supervisor, assistant, teacher, manager, etc.), cooperation routines, financial aspects and the agreement's validity period. Financial aspects are to

include such items as agreed compensation for working hours (wages), rent and reimbursement of expenses.

Quality assurance of the provided service

So far, there are no specific quality standards for Green Care services. The buyer of the services is responsible for assuring the quality of the services. The general quality assurance guidelines must be specified in each agreement, including such aspects as organization, professional responsibility, counselling routines, routines for admission of new users, reporting systems and evaluation routines. The management of the service in question must thereafter develop the design, routines and measures necessary to secure the service's professional quality.

The on-farm professionalism and quality assurance must lie in the routines linked to the day-to-day interaction with the users, and include the right of access by all relevant parties.

Farmers shall not act as social educators, teachers, social workers etc., unless they have the necessary professional background. A Green Care farmer shall primarily act as supervisor and supporter, while the experts purchasing the farmer's services are responsible for assuring the professional quality of the training or welfare services provided to the pupils/users. However, the quality of the services, as experienced by the individual user, is highly dependent on the farmer's commitment, understanding, communicative ability etc.

Those involved in Green Care services will always be in need of professional development related to the user groups associated with the farm. Good routines should therefore be developed to assure that farmers receive necessary professional training. Some municipalities enable farmers to participate in their training courses, planning days and seminars as part of the professional follow-up.

Quality assurance of the physical environment

As part of the quality-assurance system, the farm's physical environment must also be looked after. This can include securing the standard of buildings, risk and hazard management strategies, noise protection (machines etc.), dust protection and safety with regard to pollutants such as chemicals etc.

The Working Environment Act places stringent demands on safety measures. Farms with activities classified as Green Care are subject to these regulations. Farmers must therefore contact various authorities (Norwegian Farmers' Association for Occupational Health and Safety, or the Labour Inspection Authority) in order to confirm which regulations apply to the farm's new activities. The farm's insurance company should also be included in the discussions about necessary safety measures related to the planned activities on the farm.

A central aspect of the Green Care concept is to let users meet 'real life' and 'genuine challenges' on the farm. This will always include a certain risk of small accidents. It is important to be conscious of this, without becoming all too hysterical about safety.

Farm investments

Often, investments may be necessary in order to comply with specific requirements. Farmers can apply for financial assistance to cover these costs partially. These funds are allocated via the Agricultural Agreement¹ in order to promote farm-based business development. The funding scheme can provide interest-free loans and subsidize such investments as the construction, expansion or modernization of buildings, or the purchase of fixed assets:

- renovating and rebuilding houses and farm buildings to comply with the needs of users and pupils;
- adapting farm buildings, houses and the farmyard area to the needs of the physically disabled;
- installing sanitary facilities;
- implementing security measures.

Farmers contact the local agricultural authorities for application guidelines and more information about such financial-assistance schemes.

RURAL RESEARCH RELATED TO GREEN CARE

Number of farms

In 2003-04, the Centre for Rural Research conducted a nation-wide survey entitled "Green Care – flexible specialization or traditional supplementary business for Norwegian farmers?" The study showed that there are between 500 and 600 farms offering Green Care services in Norway. A similar study in 2002 resulted in a figure of nearly 500. The number of farms providing Green Care thus seems to have stabilized in recent years. However, relatively many farmers stated that they were just getting started or were considering to start-up in the near future. Also, numerous farmers reported that they wanted to start providing Green Care services, but so far, without success. There are few data about the reasons for such failure, except for the cases in which farmers state that the local authorities have a negative attitude to such services, or do not prioritize their funding. Green Care farms are spread all over the country.

Another study conducted by the Centre for Rural Research (Rye and Storstad 2004) reports that nearly 8% of a representative selection of Norwegian farmers either provide Green Care services (2.7%), are in the process of starting up (0.6%) or are considering the establishment of such services (5.7%).

A diversity of services and target groups

The most commonly provided service is general education for schoolchildren (141 farms), followed by services defined as 'child welfare'. The third largest target group are persons in need of psychiatric care (120), followed by children with behavioural problems (103). Farm kindergartens and services for the elderly with dementia are provided by 25 farms (about 8% of the survey group). On several

farms, various services and target groups are combined. In some cases, youths or persons with an emotional dysfunction were employed in one of a farm's programmes after having completed individual treatment in another.

The gender distribution is somewhat imbalanced. In 35% of provided services, the distribution of men and women is even, in 27% of the services, there are more girls/women, but boys/men are the majority in 43% of all services offered. Regarding ethnicity of users, Norwegians dominate on most Green Care farms. About 18% of the users, however, are from Asia or Africa.

The Green Care farmer'

Of those regarding themselves as the 'main providers' of farm-based Green Care services in the survey, 64% are women and 36% are men. The average age of the 'Green Care farmer' is about 49 years.

Many of the farmers in the survey have higher education (42%), and many have professional experience from public services related to the welfare services they provide. Many of these farmers are seemingly resourceful persons, showing a certain degree of entrepreneurship within their field. Many Green Care farmers state that their motives for establishing such services include the wish to be self-employed on their own farms. The mere lack of other employment possibilities is not a main incentive.

Also, 88% report that their spouse or partner is their closest co-worker in the Green Care enterprise. On many farms, three generations work together.

Farm income

In 2002 nearly 60% of the Green Care farms had a net income of below € 23,800 and operating profits of below € 11,900. Thirteen percent of the farms reported a net income of more than € 59,000. When asked about expected income developments, 43% replied that they expected a higher income, 12% expected a lower income and 46% expected about the same income as in the year of reference (2002). About 66% replied that they considered the profitability of Green Care activities to be better than that of traditional farm production.

Labour input

Of the survey farms, 57% replied that Green Care accounted for *less*, and 43% replied their services accounted for *more* than one man-year. Of the latter group of farmers, 27% had a labour input of between one and three man-years, and 7% had activities corresponding to five man-years or more. This implies that for some farms, Green Care has developed into a significant business with several employees. Eighty percent of the survey farms had between one and four employees. About two thirds of the farms had the same number of employees in 2003 as in 2002, whereas 27% had a larger staff in 2003 than in the previous year. Nearly 60% believes that the number of employees in the Green Care sector will increase.

Articles from this survey (Fjeldavli and Meistad 2004) can be found at <http://www.bygdeforskning.no/>. For a description of three individual Green Care farms see the Appendices 1 - 3.

RESEARCH AT THE AGRICULTURAL UNIVERSITY OF NORWAY

At the Agricultural University of Norway, research on Green Care is part of the topic 'Environment, Welfare and Health' within the University Programme in Environmental Research. Research interests include the use of animals, plants, gardens and the landscape to promote health for all humans and provide therapy for psychiatric patients.

Farm-animal-assisted therapy

While there is much practical experience with letting psychiatric patients work with farm animals on Green Care farms, there is almost no scientific documentation on effects on their mental health. In 2001-2002, a pilot study was conducted to investigate the feasibility of documenting positive effects of working with cattle or sheep on the mental health of humans with moderate mental diseases: marked depressions, light schizophrenia and various personality disorders (Berget et al. 2004). Validated psychiatric questionnaires were used after 3 hours' work twice a week for 10 weeks. Results were encouraging, although 50% of the patients dropped out before the period ended. The most pronounced effect on the completers was a marked reduction in depression. Persons favoured especially the physical contact with the animals, and nearly all those who completed the intervention period wanted to continue. Farmers and psychiatric primary contacts reported quite positive experience with this therapy form.

In 2003, a three-year PhD project started, with the title "Green Care with farm animals in agriculture for humans with mental disorders". The main objectives of the project are to document effects of animal-assisted therapy (AAT) with farm animals on humans with mental disorders, investigate the relationship between the nature of the human-animal interaction and the observed health effects, and develop scientific competence on the topic AAT to be used in education on Green Care in health and agricultural studies. The project involves cooperation with psychiatry at the University of Oslo. Validated questionnaires testing degrees of depression, anxiety, stress coping, self-esteem, quality of life, and social and working functioning are completed before and after the intervention period, and six months after to check for long-term effects. Ethological video studies are performed on the nature and frequency of the human-animal interactions, at the beginning and at the end of the intervention, in order to test for correlations between behaviour towards animals and improvement of mental health.

Plants indoors and in the working environment

As an integration of plant sciences and environmental psychology, research work focuses on the effects of plants in the working environment on human health and well-being (Fjeld et al. 2002). This study will be continued by studies of the influence of indoor plants and window view on health outcomes of patients in a rehabilitation institution for people with lung and heart diseases. Results may have relevance also for the indoor and working environment on Green Care farms.

Gardens for people with dementia

The increasing number of people developing dementia has led to an increasing interest in designing gardens adapted to such persons in connection with institutional homes. A guide is developed for helping in the design and selection of specific components of such gardens that may help the users in releasing frustration and giving moments of enjoyment and remembrance (Grefsrød 2002). Many gardens also make use of activities related to the farm that elderly people with dementia relate to, and which become a tool in the communication with the staff and family members.

EDUCATION RELATED TO GREEN CARE

At the Agricultural University of Norway bachelor-level courses are titled “Nature and quality of life” (PHG112-113, 10-15 ECTS points). The aims of these courses are to develop a comprehension of the significance of nature for the experienced health and quality of life in humans, and how knowledge from natural sciences and agricultural sciences can be used in prophylactic and therapeutic health work. A last objective is to enable the students to work in cross-professional teams with persons from health and social care. Teaching includes the significance of nature for human well-being and the biophilia hypothesis, relevant health and social concepts, and effects of forests, plants and animals on the well-being and physical and mental health of humans. Interested students can later develop a master’s thesis project on a topic from this course.

Continuing education courses entitled “Green knowledge for use in Green Care” (10 ECTS points) are given to health personnel and farmers interested in Green Care. Topics are the same as for the bachelor’s courses, but with more focus on practical projects.

Both types of courses are given in collaboration with a university college that runs programmes in health sciences.

FUTURE CHALLENGES

Education, health and welfare services in Norway are a public responsibility. Hence, professional interest groups and certain specialists (e.g., in pedagogy and psychiatry) have been sceptical of services that are not based on professional expertise within the public health and social sector. Not all farmers providing Green Care services

have other formal training than agricultural school, and are thus often classified as unskilled labour in the health and welfare sector. This presents a challenge when it comes to receiving satisfactory pay for the provided services, and in connection with the quality approval of these services.

There are also challenges with regard to general professional and political aspects of developing the expertise of Green Care providers and assuring the quality of their services. Which criteria should be applied to approve the providers of Green Care and the services themselves?

The question of privatization of statutory public services is currently a hot political issue in Norway. One result, or side effect, of this debate is the creation of several new terms and organization models in the public administration sector, such as exposure to competition, client/supplier model, roles and partnership.

The increasingly tighter municipal budgets are another challenge. This must be seen in connection with the increasing number of responsibilities that have been transferred to the local level. Local governments are thus forced to prioritize their use of funds, and cut back on services that are not fixed by law. In many cases, this will also affect Green Care services, since many of these are of preventive nature and thus do not belong to those responsibilities which the municipalities have to provide according to the law. However, it should be noted that preventive measures are statutory to a certain degree. In such a context, Green Care can only survive as a result of political negotiations.

With the current debate on multifunctional agriculture in mind, these issues also involve both farmers and the entire agricultural sector. Following the recent WTO negotiations on agriculture and this summer's agreement on the liberalization of trade in food and fibre products, there has once again been considerable media and public focus on the role of agriculture and farmers. The above-mentioned challenges for Green Care thus directly involve the actual justification of Norwegian agriculture and the question of its functions in future society.

NOTES

¹ Agreement based on negotiations between the government and the two farmers' unions

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APPENDIX 1. FUNDAUNET ENVIRONMENTAL FARM

Farm facts

Location: municipality of Meråker,
North Trøndelag County
Arable farmland: 40.7 ha + 20 ha fenced-
in pasture.
Rough grazing land: 39 ha.
Crops: Fodder (grass)
Livestock: 200 winter-fed sheep and 13
suckler cows
School garden: vegetables, herbs and
flowers
Schoolroom facilities: 163 m², including
kitchen, classroom, toilets, showers,
cloakroom and storage room.

Objectives

The Fundaunet Environmental Farm's educational programme aims to be an integrated part of the teaching activities at Meråker School.

The curriculum of numerous subjects is well adapted to being carried out on the farm, including natural and environmental sciences, home economics, art and crafts, as well as physical education.

Farm activities also enable a practical approach to certain aspects of theoretical classroom work. By

using the farm as a classroom, it is possible to:

- link the school's curriculum to practical farm work
- help pupils see the connection between theory and practical work
- enable children to experience personal growth by overcoming practical challenges
- motivate pupils by giving them responsibility
- let pupils experience that they can contribute in a working environment
- experience a working rhythm in step with the changing seasons

A brief history

The Fundaunet Environmental Farm is based on cooperation between farmer and owner Svenn Tore Ness and agronomist/pedagogue Kjetil Aarbakke. Svenn and Kjetil founded a cooperative society, constructed housing for teaching and training, and established a school garden on the farm. Through contact with their local government, they have established cooperation between the farm, school authorities and the health and welfare sector. Things have happened fast and are still in a process of development. The Green Care services are based on political decisions and formal agreements.

The environmental farm has been well received among pupils, teachers, school authorities, social authorities and local politicians. The farmer and a teacher participated in training courses provided by the national project 'Levende skule' ('Living school'). The teaching activities on the farm are adapted to the Norwegian curriculum L97. The focus is on providing a better quality of education than can be achieved in a traditional classroom setting. This was a necessary prerequisite for the general acceptance of the farm's services. Meråker School has previous experience

with outdoor schooling and other forms of off-campus education. This made it easier for both teachers and pupils to utilize the potential of the Fundaunet Farm.

Available services

The farm is a large, well-run sheep and suckling cow farm. It is located close to Meråker, 3 km from the school, where the farm also has a plot of land and teaching facilities. Three days a week, the farm is used by the local school, and two days a week it is used in connection with a sheltered employment service for psychiatric patients. This presentation focuses mainly on the school-based services.

The farm provides an educational programme for classes and groups throughout the entire year, but most activities are concentrated in spring and autumn. Specifically adapted teaching of individual pupils can be provided two days a week. The general educational programme consists of:

- Class teaching (1st to 10th grades)
- Pupil's choice
- School business

The fixed, annual class programmes are the backbone of the farm's activities. The standard programme includes one visit in spring and one in fall for all grades. A curriculum for each grade has been agreed upon, thus ensuring the continuity of the programme in the long run. In addition, there are project-based periods, such as 'pupil's choice' in grades five to seven, farming experience, and school business establishment in 9th grade.

Organization

The farm is organized as a cooperative society, which runs the teaching facilities. They have a rental agreement with the municipality, and the owners are employed by the municipality on an hourly basis as teacher and environmental therapist, respectively.

The farm's activities are based on political decisions and formal agreements. One-year agreements regulate the rent, which shall cover capital costs related to buildings, electricity, insurance, accounting services, telephone and office expenses, land rent, maintenance, operating equipment, furniture and machine rent. The local school and Fundaunet Environmental Farm cooperate closely.

Results

General feedback and a user-survey among 7th-graders show that the provided services are very popular among pupils. Teachers also expressed that the farm's activities are positive and useful for their classes. The children are able to develop through the practical farm work they are assigned and their close contact with the farm animals.

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APPENDIX 2. VIKUM FARM

Farm facts

Location: municipality of Gaular, Sogn og Fjordane County
Arable farmland: 8 ha
Rough grazing land: 65 ha
Crops: Fodder (grass)
Livestock: 60 winter-fed sheep
Other animals: hens, horses, dogs, cats
Housing facilities (for user): separate house with bedroom, living room, kitchenette, bathroom with a toilet and shower.

Objectives

After having stayed at Vikum, users shall be able to live on their own, avoid relapse and thus have a better quality of life.

The services are intended for persons with drug/alcohol problems in need of more intensive care than can be provided by polyclinic treatment. Users of the Vikum Farm stay in a safe, drug- and alcohol-free environment with a structured daily rhythm.

A brief history

Zandra and Kurt started working on establishing their services in 1999. Kurt has been a dry alcoholic for the past 12 years. He also worked as an environmental therapist at a youth centre, and has 20 years' experience as a support person.

Both have gone through treatment themselves, so they feel they know a lot about what it is like to overcome drug/alcohol abuse.

"We've been thinking about this for years, but things didn't get going until we read a bit about Green Care", Zandra explains. Their programme was developed in cooperation with local health and welfare workers. Kurt says that it was very important to communicate well with his own municipal authorities and the drug-abuse consultants. These were, and still are, important partners. Their Green Care services began in August 2000.

Available services

Users participate in all work related to the farm's sheep husbandry and forestry activities. Work varies with the seasons, and can include:

- Feeding and taking care of animals
- Assistance during lambing

- Sheep herding
- Gathering the sheep in the autumn
- Shearing
- Forest work
- Building maintenance

Recreation

There are lots of things to do for the users in their leisure time, such as hiking, fishing, hunting or skiing. Indoor activities are available in the nearby village.

Housing

Users have their own house at their disposal. The house has a bedroom, living room, kitchenette, bathroom with a toilet and shower. A PC and a TV are also available. Housing is based on self-catering, thus strengthening the users' ability to be responsible for their own lives.

Organization

Users live and are under supervision at Vikum full-time. Zandra and Kurt are accessible 24 hours a day. There is usually only one user on the farm at a time, but having several users together has also worked well. The duration of the stay varies, from several weeks to several years. This depends on how the stay at Vikum is integrated with other treatment. Some users come to Vikum prior to moving to other institutions, whereas others come as part of a post-treatment programme. Most users stay at Vikum during their entire treatment period.

It is important to clarify the responsibilities and roles of farmers and users. An agreement is made for each user, in cooperation with the municipal primary and secondary services. Users shall be under continuous observation of the health and welfare system. The treatment scheme must be outlined in a contract, which is to be signed by the user and the provider of the service. The contract must contain detailed information about:

- Design and duration of the stay
- Working hours
- Work description
- Improvement of the user's drug/alcohol problem
- Use of medicines
- Timing of therapy
- Visits
- Leave of absence
- Leisure time
- Consequences of relapse during the stay

An agreement is also to be made between Vikum and the buyer of the service, i.e., the state. The services can also be provided for users from other counties. Zandra and Kurt are self-employed and charge a daily rate in those periods when they have users on the farm.

Quality assurance

The service is based on cooperation between the psychiatric clinic, the user's social welfare office and Vikum Farm. Admission is based on a written application sent to the farm by the welfare office of the user's place of residence. The drug-abuse consultant is also involved, and decides on which patients to prioritize. The drug-abuse consultants approve the treatment programme at Vikum, and are responsible for quality assurance. The head physician of the psychiatric clinic, however, is generally responsible for the treatment. Zandra and Kurt also receive support from the local psychiatric nurse.

Results

The providers of the services at Vikum have only received positive feedback from their users and the drug-abuse authorities. Users appreciate working with animals and the close contact with nature. The main challenge for many users is the period after having completed the stay at Vikum. Some have a relapse, and thus have a much longer road ahead of them to overcome their drug abuse.

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APPENDIX 3. SANDE BRUK

Admission criteria

- Dementia diagnosis, early stage. Cognitive deficit also relevant
- Assessment of functional status
- Users must be able to walk, also stairs
- Users should be between 50 and 70 years; older persons can also be admitted, mobility and health conditions allowing
- Trial period of 2-3 days prior to admission
- If a user is injured, or his/her condition changes and more intensive care becomes necessary, other, suitable services must be provided

Users from other municipalities

The service is provided as long as a user fulfils the necessary requirements. When these are no longer met, the contract is cancelled with two weeks notice. The user's municipality of residence is responsible for the further treatment of the person

The project

The day-care service is based on cooperation between the municipality of Horten, the Vestfold County Governor and the Norwegian Centre for Dementia Research. The project was initiated in 2002, and lasts until 2005.

The focus is on the preventive effect of such systematic measures for the user group in question. The project will also evaluate the organization of the service within the inter-municipal cooperation in Vestfold County.

Agriculture and dementia care

Agriculture in Norway is in a phase of transition, and as a result there are now common interests between the farming community and elderly care, with specific focus on dementia patients. The services are designed to meet the needs of middle-aged persons (about 50-70 years old) in early stages of dementia. The day care services include:

- Morning coffee, small talk, singing
- Joint planning of the day's programme
- Various social and physical activities
- Lunch

Day care service is adapted to the needs of the users. Day-to-day activities depend significantly on the interests and functional status of the users. There is a daily user charge of NOK 59. During the project period, transport is free.

Family and prevention

The day care service at Sande Bruk aims to maintain an open dialogue between staff, users and their family members. The service also intends to enable relatives to have some time off from their caring responsibilities.

A dementia diagnosis leads to many necessary changes in life. In numerous ways, the illness also affects one's family and social network. Research and experience related to dementia underline the need of an open approach to the illness. Individually designed activities help patients to master their daily lives and increase their well-being.

Day-care services for dementia patients have been shown to have a beneficial effect on the development of the illness after a relatively short time. Another benefit is providing some relief to their families. This preventive effect may enable patients to have a better quality of life at home. The development of dementia can be slowed down by as much as a year and a half.

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CHAPTER 10

‘NATURE AND HEALTH’ IN SWEDEN

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Abstract. During recent years, Sweden has faced an increasing number of people being out of work due to long-term sick leave. This has led to numerous investigations and official reports on behalf of the Swedish government, concerning the necessity of measures to be taken to improve the health situation in working life, and to improve the sick listing and the rehabilitation processes. It is becoming more and more common to look for activities outdoors or in nature in terms of restoration, health promotion or rehabilitation. Still there is no particular section or organization for care farms or related activities in Sweden today. The Federation of Swedish Farmers started a national project, Nature and Health, aiming at forming a network including researchers, public authorities, the private business world, the health-care sector and the green sector. There is a growing interest in working with health-promoting and rehabilitative measures with nature and farming as a basis. Several regional projects of this kind are about to start. Cooperation with researchers is very important to legitimate the work in the area of nature and health, in this case care farms and horticultural therapy. Most research in these fields is done at the Swedish University of Agricultural Sciences, Department of Landscape Planning Alnarp, where interdisciplinary research is conducted in which landscape architects dealing with design in relation to environmental psychology and researchers in other disciplines are working together. Collaborators regarding health and horticultural therapy are for example Karolinska Institutet, the Medical Faculty at Lund University and Vaxjo University Hospital in Sweden and the University of Michigan, Texas A & M University and North Carolina State University in the USA. Research by the Section for Health Care Research at Sahlgrenska, a hospital in Gothenburg, showed that a nature-based lifestyle has an improving impact on health.

At present we have no knowledge of the current number of so-called care farms in Sweden. We do not even know how many of them have agreements with the social-insurance office, the County Council, the County Labour-market Board or municipalities. What we do know is that horticultural therapy is growing in Sweden and that it often is connected to different educational programmes. The agreements that are made are written directly between buyers and producers. The interest in care farms and horticultural therapy by public authorities is also increasing but there are still very few who dare to put money into the development of this area. The Ministry of Health and Social Affairs has shown interest but the State does not provide capital for a national venture. However, there have been some initial discussions between the Social Insurance Office, municipalities, County Labour-market Board and County Council regarding a number of regional projects. The more good results and examples can be shown, including international ones, the more it facilitates future projects regarding care farms, horticultural therapy and animal-assisted therapy.

Keywords: care farm; healing garden; horticultural therapy; Federation of Swedish Farmers

BACKGROUND

A historical retrospect tells us that gardens and parks for well-being were mentioned thousands of years ago. During the first half of the twentieth century, the care-giving environments became very technocratic. In the early 1960s environmental psychology was put forth as a new academic subject (Sachs 1999). Today medical practitioners who wish to treat people not as machines but as complex wholes have started to pay attention to environmental psychology.

For the last couple of years, Sweden has faced an increasing number of people being out of work due to long-term sick leave. This has led to numerous investigations and official reports on behalf of the Swedish government, concerning the necessity of measures to be taken to improve the health situation in working life, and to improve the sick listing and rehabilitation processes. The Swedish costs for sickness benefits, rehabilitation and early retirement pensions were almost 10 million euro during 2002 (Regeringskansliet, aktuellt 2003). The goal is to reduce the costs of sickness benefits from ca 4.1 million euro in 2003 to 2.6 million euro in 2007. At the same time, the cost of early retirement is estimated to increase from 1.3 million euro to 6.4 million euro (Riksförsäkringsverket 2004).

An increasing number of the people who are out of work suffer from different kinds of stress disorders. It is a well-known fact amongst environmental psychologists that nature facilitates recovery or restoration from stress. It is therefore likely that these people would benefit from an expansion of the offered rehabilitation measures in which nature would be incorporated in one way or another.

PRESENT SITUATION

Starting a network

Currently there is no particular section or organization in Sweden for care farms or related activities. The Federation of Swedish Farmers started a national project, 'Nature and Health', with the first aim to establish a network involving researchers, public authorities, the private business world, the health-care sector and the green sector.

Quality marking

There is a growing interest in working with health-promoting and rehabilitative measures based on nature and farming. Several local projects of this kind are about to start. In 2003 the Federation of Swedish Farmers developed a business concept for companies in the countryside dealing with health-promoting arrangements in nature. This concept includes quality criteria and active networking, and companies fulfilling the criteria are certified by a quality mark called 'Naturlig Laddning' (i.e. Natural Charging). Target group for this business concept are people living on a farm in the countryside who want to help other people to improve their health. This can be done either through their own company or in collaboration with other companies, for example health-promoting consultants. All work is carried out from a

salutogenetic perspective, i.e. focusing on what is good and healthy instead of the more common focus on what is bad and ill, and is not intended for people on the sick-list. The health-promoting activities offered to clients may be, e.g., relaxation and reflection, processes including life-style questions in combination with easy physical activities in nature, a stay at a smaller spa in a natural environment etc. Possible clients are companies, organizations, groups and private persons. At this moment there are ten certified countryside companies in southern Sweden satisfying the quality criteria. A broader launch is going on to increase the number of certified countryside companies all over Sweden. Certification is not needed to run a company, but it is a nationally registered quality mark. One hundred people have shown an interest, and a first introductory course will be held in autumn 2004. The course is meant to be inspiring, to develop new ideas and to get more countryside companies certified with the quality mark (Naturlig Laddning 2004).

Care farms

In a way, we already have care farms in Sweden today. There is a well-developed family-care system in Sweden where the Swedish Board of Health and Welfare supports the social services' work with, for example, vulnerable children. These children can, if needed, be moved to so-called family homes. Very often the family homes are located in the countryside. Information on the number of family homes and the groups that make use of them, however, is not available; these may include adults or children with psychosocial problems, drug addicts, criminals, people who have autistic problems or are mentally retarded, and people on long-term sick leave due to mental fatigue or pain. (Psykosocialt Forum 2004). In the autumn of 2004 the Swedish Federation of Farmers has begun to map the family homes.

Healing gardens

Horticultural therapy is growing in Sweden and is often connected to universities, city councils, upper secondary schools dealing with agriculture, horticulture or forestry, or foundations. Target groups include people on long-term sick leave due to mental fatigue or pain, people out of work and people in need of cognitive training, e.g., due to brain damage (Abramsson and Tenngart 2003). Also hospitals and homes for the elderly are increasingly offering some kind of horticultural therapy. Ten institutions or businesses dealing with horticultural therapy have already been identified and the above-mentioned mapping also includes horticultural therapy, especially connected to the countryside; it is hoped that more will be found.

The healing garden in Alnarp is the garden in Sweden getting most attention when it comes to horticultural therapy. The garden is linked to the Department of Landscape Planning Alnarp at the Swedish University of Agricultural Sciences. The healing garden at Alnarp has been active since spring 2002 when the staff was employed. Their experience is that every working team (staff team) ought to have one occupational therapist and one horticultural therapist in order to be able to fulfil the expectations from the National Social Insurance Service in terms of evaluations

and reports. All patients are suffering from the burnout syndrome, a kind of mental fatigue and stress disorder. During the rehabilitation programme they are not called patients but participants. There is room for one group of participants in the morning and one in the afternoon. Management of such a rehabilitation scheme requires an explicit framework consisting of time, staff, environment, horticultural therapy and activities. The participants must experience the healing garden as a safe place. The activities offered to the participants must be adjusted to them individually and for this group of patients even resting is considered a form of activity. The schedule must be simple and not distressing. Stress-coping strategies should be part of the programme but only later on in the rehabilitative process, as people in need of rehabilitation due to depression caused by exhaustion often suffer from a bad close-up memory and have difficulties with their concentration. As the participants are not to be considered as labourers there must also be a gardener who is responsible for the garden. The staff ought to have external supervision to support the best work being done. When starting a rehabilitation garden it is very important to be in good contact with the social-insurance offices, employment offices and local health-care institutions and see to it that there are written agreements, preferably in advance (Abramsson and Tenngart 2003).

Education

When it comes to education regarding nature and health we have identified a couple of courses offered at university level, one qualified vocational training to become an educationalist in health science, and nature and culture in particular, and one education to become a gardener with particular skills in environment, health and leadership. More education programmes, at different levels, are desirable.

ORGANIZATION

As mentioned earlier, Sweden has no organization for care farms. The Social Insurance Office is the Swedish public authority that totally or partly finances rehabilitation measures that – in the end – are aiming at getting people back to work. To be able to guarantee the quality of the rehabilitation the Social Insurance Office signs contracts with rehabilitation teams/producers. High demands are put on the producers regarding content, methodology, competence, resources and evaluation (Försäkringskassseförbundet 2003). This means that there is great need for an organization for care farms and other rehabilitation producers dealing with nature and health, not only to facilitate companies already in the field but also to ensure a good quality when, for example, writing agreements on rehabilitation assignments.

The Labour Market Board in each county is responsible for people who are unable to work or are unemployed. These Boards purchase rehabilitation, education and other services for these people. The employer is responsible for vocationally oriented rehabilitation, for example vocational training courses. It is often difficult to draw the line between public and employers' responsibilities and the costs are often shared (Arbetsförmedlingen 2003).

FINANCING

For the time being we have no knowledge of the current number of so-called care farms in Sweden. We do not even know how many of them have agreements with the social-insurance office, the County Council, the County Labour-market Board or municipalities. The agreements that are made are written directly between buyers and producers of rehabilitation. When it comes to family homes the agreements are written between a family home and the municipality. For rehabilitation the agreement is made with the Social Insurance Office. Generally speaking, the Social Insurance Office is very restrictive regarding signing agreements with producers of rehabilitation. This is especially true for this kind of new, still relatively unknown, niche.

A governmental bill on referral in May 2003 proposes financial coordination regarding rehabilitation and voluntary cooperation between the Social Insurance Office, the County Council, the County Labour-market Board and the municipalities (Regeringskansliet 2003). This might open possibilities for care farms, horticultural therapy and animal-assisted therapy as new alternatives in rehabilitation in the future. Still there is no governmental funding of any such kind in Sweden.

SUPPORT OR HINDER

It can be concluded from the pilot study 'Green Rehabilitation' (Abramsson and Tenngart 2003) that there is very little cooperation between the health-care sector and the green sector. This is due to several factors; first, there is a certain slowness in the traditional rehabilitation system, and second, these are two different systems with difficulties in mutual understanding. Care farms and horticultural therapy are also fairly new phenomena in Sweden. Lack of knowledge, legitimation and economic resources are some other factors. Authorities have expressed the necessity of evaluations, and this work has been started among horticultural-therapy organizations; so far the results seem to be positive (Abramsson and Tenngart 2003).

The Social Insurance Office is the authority signing most contracts with rehabilitation teams/producers. Today, the trend is that the Social Insurance Office does not pay for rehabilitative treatments of people who are out of work due to long-term sick leave but lets them get early retirement instead (Riksförsäkringsverket 2004). This means that fewer people are offered rehabilitation and that there are fewer clients for rehabilitation producers and thus fewer chances for, e.g., care farms to get written agreements with the Social Insurance Office. The attitude within the Labour-market Board regarding vocational rehabilitation is that this should decrease (Jönköpings Länsarbetsnämnd 2004).

The interest in care farms and horticultural therapy is increasing, also by public authorities, but there are still very few who dare to put money into the development of this area. The Ministry of Health and Social Affairs has shown interest but the State does not provide any capital or funding for a national venture. However, there have been some initial discussions between the Social Insurance Office, municipalities, County Labour-market Board and County Council regarding a number of regional projects.

The more good results and examples can be shown, including international ones, the more it facilitates future projects regarding care farms and horticultural therapy. It is of the greatest importance that the effects of rehabilitation by existing care farms and rehabilitation producers dealing with horticultural therapy will soon be evaluated and assessed.

RESEARCH

At the Department of Landscape Planning in Alnarp, within the Swedish University of Agricultural Sciences, a research group named Health and Recreation deals with research in environmental psychology. The focus is on how humans are affected by contact with nature; research leader is Associate Professor Patrik Grahn. Research has shown that recreation in urban green areas affects our health in a positive way. Studies by Patrik Grahn and Johan Ottosson even show that the effects are greatest for people with a reduced general condition. This implies that gardens and other urban green areas play an important role in care institutions for the elderly, disabled and diseased (Ottosson and Grahn 1998).

At the Department of Architecture at Lund Institute of Technology, environmental psychology research is carried out into the effects of outdoor recreation on the elderly. Professor Rickard Küller and Marianne Küller have made the following compilation on the positive health effects gained through outdoor recreation. It:

- strengthens the skeleton and prevents osteoporosis;
- improves the possibility to stay fit and keeps muscles trimmed;
- prevents obesity;
- improves quality of sleep;
- prevents depression and anxiety;
- decreases the risk of infections;
- improves stress tolerance;
- decreases the risk of cardiac failure (although not when very cold);
- benefits social life and prevents loneliness.

Furthermore, daylight helps us to assimilate vitamin D, which regulates the production of the hormones cortisol and melatonin (Küller and Küller 1994, p. 10).

Associate Professor Ingemar Norling at Sahlgrenska, a hospital in Gothenburg, has found that the quality of life and psychiatric well-being can be explained to a much higher degree by one's quality of recreation and leisure activities than from working life or material factors like economy or properties. Particularly important regarding recreation are nature-based activities like being outdoors and surroundings like gardens. The garden becomes more important with increasing age. As many as 70% of both men and women aged 45 to 65 state that gardens are of great importance to them. Norling (2001) also looked at the health effects gained from having pets, and dogs in particular; pets are assumed to have a positive effect and serve as a kind of self-care for two to three million people in Sweden.

INTERESTING INITIATIVES

The national project, 'Nature and Health', started in 2004 by the Federation of Swedish Farmers includes the Swedish Board of Agriculture, Länförsäkringar AB (an insurance company), the Swedish University of Agricultural Sciences, Stockholm University College of Physical Education and Sports, and the Federation of County Councils. The first aim is, as mentioned earlier, to establish a network and in the long run to create possibilities for companies with resources in forestry, agriculture or countryside environments to specialize towards nature and health. The specialization is meant to include the development of 'efficient health concepts' concerning both health-promoting activities and rehabilitative activities. These efficient health concepts result in a win-win situation for farmer or owner of the countryside company, society and individual regarding both health aspects and economic aspects.

Mapping the situation in Sweden

In autumn 2004 the project Nature and Health is mapping the different kinds of care farms in Sweden. The following categories are considered:

- Countryside companies, forestry or agricultural enterprises in the countryside that offer health-promoting measures including resources in farming and in nature. They contribute to a better health by health-promoting activities such as soothing physical activities in nature in combination with offering discussions regarding life style, group dynamics, providing time for reflection and relaxation, possibly in an own spa or a similar facility. Nature is supposed to be the basis in all arrangements.
- Forestry or agricultural enterprises or companies dealing with horticulture or animal husbandry that also offer rehabilitative activities including the resources on the farm and in nature. This includes letting the clients be part of the daily activities on the farm, like taking care of animals, plantations and social life. This can be implicit or explicit, e.g., in animal-assisted therapy or horticultural therapy.

Supervision should be offered by the farmer himself or the countryside-company owner, by the clients' own supervisor or by a health-care team that is linked to the farm. There can be either daily activities or longer programmes where clients stay on the farm.

Ensuring good quality in our future work

Safeguarding the best quality of our work is the challenge we are facing. This is the only way to get it widely accepted and spread across the nation. The Department of Landscape Planning in Alnarp is examining the possibilities for starting an educational programme that authorizes horticultural therapists. Contacts have been made with AHTA, the American Horticultural Therapy Association, to see how their members are working. The Department of Landscape Planning in Alnarp is also looking at ways to certify companies dealing with horticultural therapy.

Within the project Nature and Health contacts has been made with the Dutch Support Centre for Care Farms in The Netherlands. Parts of their criteria document for care farms have been translated and are probably going to be used when preparing a Swedish document with criteria for certifying Swedish care farms.

CONTACTS

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The Swedish University of Agricultural Sciences, Department of Landscape Planning Alnarp (web site: <http://www.lpal.slu.se>).

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CHAPTER 11

FARMING FOR HEALTH IN FINLAND

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Abstract. In Finland Farming for Health is a relatively new phenomenon. Information concerning the number of farms for health and related projects is missing. The current situation in Finland can only be described through case studies. Riding therapy is the best known form of farming-for-health activity and the local and national authorities have already recognized the need for it. Riding therapy is well organized in Finland with its recognized status, association and financial background. Although there is only one educational establishment for riding therapy in our country at the moment, it seems to guarantee the further existence of the profession. Among private entrepreneurs, there are a hospital and a college for disabled persons that use the method in their work.

Other animal-assisted therapy methods are expanding all the time; they are not supported to a great extent however. Social-pedagogic rehabilitation can be studied in courses of the University of Kuopio. There are some farms and centres for disabled persons that provide rehabilitation to their average customers and special groups. The financial structures have to be clarified in the immediate future in order to develop the working methods further.

Garden therapy is not recognized as an official therapy method and the Social Insurance Institution of Finland does, in principle, not finance it. The educational possibilities are still modest and rare but there have been some possibilities to receive education related to Farming for Health in Finland. The therapy method is, anyhow, widely used in old people's homes, prisons and institutions for mental health. In this field of therapy there is still a lot of research and planning to do.

Keywords: ancillary enterprises; animal husbandry; disabled persons; endemic breeds; health policy; horse farms; indigenous breeds; landraces; livestock industry; mental health; public health; vocational rehabilitation

INTRODUCTION

In Finland Farming for Health (FH) as an intentional activity is a relatively new phenomenon. Farming is still considered as primary production of food and fibre, although the contribution of farming to the rural landscape, to biodiversity and as producer of a recreational environment has been acknowledged, and policy measures addressed to these issues have been developed and implemented during the past decade. Although the meaning of farming as a therapeutic activity or service has not been recognized, it can be found and exploited in several enterprises and public institutions, for example in prisons. Educational and research activities related to animal-assisted therapy have also emerged during the past decade. Still,

the institutional basis, organizational structures, education, financial measures and institutional structures are not very sophisticated.

In the Agrifood Research Centre, Environmental Research, we started a project in April 2004 in which the therapeutic use of cattle and sheep is explored. The focus is on the endemic breeds, which are threatened to become extinct. These animals are characterized as calm, gentle, low-productivity, healthy, and they could be considered especially appropriate for therapeutic use. Native sheep and cattle are bred in two prisons, and the experiences with keeping these animals have been encouraging. In this project we are aiming at exploring the socio-cultural and economic basis of the activity and we are making proposals for developing policy measures.

Due to the fact that FH is a relatively new issue in Finland, it has not been mapped in full detail, e.g., we have no exact data of the number of farms for health and related projects. Another problem is the broad scope of farming-for-health activities, from more or less recreational activities and hobbies to therapeutic activities. In this article we deal with animal-assisted activities and garden therapy.

For these reasons, we will describe the current situation in Finland primarily through case studies. The article is based on interviews with experts (researchers, entrepreneurs and authorities) and available literature concerning the issue. We will first approach the situation through the case studies and then summarize current policies, research, educational activities and projects dealing with FH. This chapter will not concern itself with garden therapy, although it is used in Finnish old people's homes, hospitals etc. Our focus will be on animals and their utilization in therapeutic activities.

THE MAIN FIELDS OF FARMING FOR HEALTH IN FINLAND

Riding therapy

Riding therapy is the best known form of farming-for-health activity in Finland. The rehabilitation riding-therapy lessons are supported by the Social Insurance Institution of Finland (Kansaneläkelaitos, Kela). The riding therapist must be qualified for giving the therapy. The lessons should be included in the patient's individual rehabilitation plan and the gained results should be monitored and reported. The local social services may also finance the riding therapy as well as some associations for disabled persons (Nina Hyvätti, pers. comm.).

The Equine College of Ypäjä (Ypäjän hevosopisto) aims to educate equestrian professionals of every sphere. The college provides education in all equine sectors and has approximately 250 students each year. After taking the basic second level exam the students can continue their studies in further professional education courses. One of these courses is meant for persons who are interested in riding therapy. The college is the only educational establishment in Finland where one can become a qualified riding therapist. The Finnish qualified, professional riding therapists usually have the basic education of a physiotherapist (<http://www.hevosopisto.fi>).

The education consists of three modules dealing with riding therapy: the first one is about horses in general, the second about riding therapy in support of upbringing, and the third about riding therapy in support of motor coordination. Characteristic for the education is its supplementary nature: it is basically about updating career training or about further education, which the riding therapists may adapt to their work according to their own interests. The riding therapists may emphasize motoric, pedagogic or psychological goals and methods in their work. The education or the supplementary course consists of approximately 60 credits under the European Credit Transfer System (ECTS; <http://www.suomenratsastusterapeutit.net>).

Qualified, professional riding therapists are members of the Association of Finnish Riding Therapists (Suomen Ratsastusterapeutit ry). The association has approximately one hundred members. The Association of Finnish Riding Therapists was founded in 2000 and its main purpose is to look after the riding therapists' interests. It also works as a link between its members, looks after the general and common interests in the field of riding therapy, develops the knowledge and skills of its members and improves the general conditions and circumstances. The association controls the quality and realization of riding therapy in Finland. Furthermore it takes care of the domestic and international cooperation (<http://www.suomenratsastusterapeutit.net>).

The *Paloniemi* hospital is specialized in treatment of psychiatric patients. All patients accompanied by referrals come to the hospital from six municipalities that also own the hospital. Besides the normal hospital care, important methods of treatment are family and network accounts and various therapies, including riding therapy (<http://www.hus.fi>).

The *Lehtimäki Special College* was founded in 1971. It aims to support the lifelong learning, intellectual growth and individuality of disabled persons. It also puts emphasis on the disabled person's abilities to act as an equal citizen in society. In order to achieve these goals, the college arranges all-round educational and vocational courses as well as tuition in independent living and spontaneous studying. The college is first and foremost intended for severely disabled and multi-handicapped persons (<http://www.lehtimaki.fi/opisto>).

The college organizes courses in riding therapy for both disabled children and youngsters and their families. The aim of the riding-therapy courses is to familiarize the participants with the riding therapy as a versatile method of rehabilitation, to give a chance to gain experience by working with horses, to strengthen one's social skills by teamwork and to give a stimulus to continue riding back home (<http://www.lehtimaki.fi/opisto>).

The idea of organizing riding-therapy courses is also to give a versatile, intensive episode of riding to severely disabled persons, for whom riding is one of the rare physical exercises they are able to take (<http://www.lehtimaki.fi/opisto>).

Horse-assisted social pedagogic rehabilitation

Horse-assisted social pedagogic rehabilitation has a more holistic approach to horses and riding as a therapy. The main idea of horse-assisted social pedagogic

rehabilitation is that a good atmosphere in the stable together with the presence of the horses has a positive effect on the prevention of social exclusion of youngsters and children and on the solution of already existing problems (Nina Hyvätti, pers. comm.).

The University of Kuopio has a horse-assisted syllabus for social pedagogy. The syllabus is meant for professional people in the areas of education, social work and health care in view of the fact that working methods of horse-assisted social pedagogy can best be adopted in these professions. The education deepens the participants' knowledge of the reasons for social exclusion and prepares them to use both the cooperation between horse and man and the surrounding community as a method in order to help youngsters and children in solving problems of social exclusion. The education aims to create new social pedagogic education methods to support the social development and health of youngsters and children. In 2001, the Equestrian Federation of Finland (Suomen Ratsastajainliitto ry), in cooperation with the Department of Social Sciences of the University of Kuopio, started a project that aims to develop the working methods and education of horse-assisted social pedagogy (<http://www.kkk.uku.fi>).

Metsäkylä Horse Stable, close to the city of Turku, rehabilitates children and youngsters who are in danger of social exclusion and related problems. The place is also intended for average customers and the children and youngsters working there are not divided into groups according to the reason why they come to the stable. The stable was founded in 1992 and the owner Mrs. Nina Hyvätti took part in the social-pedagogic education programme of the University of Kuopio in 2001. In an interview on 28 September 2004 she provided the information for this section of this chapter.

There are two different social pedagogic rehabilitation activities at the stable. Many young people come to ride there as a hobby. This group includes, e.g., children and adolescents with diagnosed autism or a disturbance in focused attentiveness. They are sent to the stables by the local social services of the city or municipality.

Another large group consists of the adolescents, who work as trainees at the *Metsäkylä Stable* in order to try to gain control of their own life. The youngest trainees are 16 years of age, typically drop-outs with many problems, without any interests or control of life. Some of them may have mental problems or are drug addicts. The local social services send the adolescents to the stable if they seem to have some interest in horses or have had such interests in childhood. The stable cannot receive many youngsters and children at the same time and there are no specialized group activities available at the moment. Some adults come to the stable as well: it is usually a question of mental-health patients who want to see, touch and feed the horses, although they do not necessarily ride them.

First of all the stable personnel tries to create a good atmosphere at the horse stable: they discuss different basic matters with the youngsters and try to make the atmosphere educational in order to support the adolescents' healthy mental growth. The older ones take care of the younger ones and everybody learns to take care of the horses. All this is related to the youngsters' hobbies and provides a solid foundation for receiving mental, physical and social support for a healthy life.

Among other things, such as the role of the horse stable as an educational community, the horses are an important part of the rehabilitation. The horse needs regular timetables, exercise and food. The youngsters know that the horses need them and that they wait for them. Furthermore, the herd instincts and behaviour of the horses help to develop the youngsters' empathy: it is easier for the adolescents to empathize with the weakest animal of the herd. This can make them realize that the same rules and feelings are valid in swarms and hordes, too. The manager of the Metsäkylä stable is studying the effects of horse-assisted social pedagogy on young people with social problems in her Master's thesis.

The municipality or city may support the horse-assisted socio-pedagogic activities. The local social service pays for the normal riding lessons as a supported hobby and for the traineeship as a normal training period. Some associations for disabled persons may also finance the horse-assisted social pedagogic rehabilitation. The Social Insurance Institution of Finland (Kansaneläkelaitos, Kela) finances this activity on the condition that the trainer must be a qualified, professional riding therapist with the basic education as, e.g., a physiotherapist.

According to the experts, the problem is that the funds are too small to provide a long-lasting rehabilitation, which would gain better results among children and adolescents. This particular sphere of animal-assisted work needs networks to be able to function properly. One possibility could for example be that the youngsters who do not need riding therapy yet or do not need it anymore, could take part in the social-pedagogic animal-assisted rehabilitation. There are already some entrepreneurs in the field of social-pedagogic rehabilitation who rent their horses to qualified riding therapists. A lot of research is needed in this field to be able to give any recommendations.

Examples of some other animal-assisted rehabilitation activities

NeuroCity

There are some other forms of animal-assisted rehabilitation in Finland. The Finnish Foundation for Rehabilitation and Development (Suomen Kuntoutus- ja Kehityssäätiö) was founded to improve the position of children and adolescents who require support due to various speech, communication or functional problems, or for such reasons in their families. The Foundation's purpose is to advance research into and knowledge of neurological disorders and to improve the possibilities for the target group to lead an independent and productive life. The Foundation develops various forms of rehabilitation, training and support services. In their various forms they are directed at the child's or adolescent's entire support group: family, close relatives and friends, teachers and nursing staff. Training, publicizing information and counselling are important parts of the Foundation's functions (<http://www.neurocity.fi>).

The Foundation implements and develops its purposes via the national functional model *NeuroCity*. At the moment there is a project that aims to develop animal-assisted therapy and to show the meaning of animals in the development of one's abilities in interaction and communication. The foundation has hired a student of

psychology to work in the NeuroCity Functional Centre and to write her Master's thesis about the questions of animal-assisted therapy. In an interview on 28 September 2004 Mr. David Gumpfer and Mrs. Hanna Viinimäki provided the information for this section of this chapter.

There are horses, sheep, chickens and a dog in the NeuroCity Functional Centre in Rymättylä. The animals are an important part of training both in the long-term preparation and in short preparatory courses. The target group consists of children, youngsters and adults in need of specialized support. Children, youngsters and adults may volunteer to take care of the animals. They can join the staff and come to the pasture every morning and evening, walk and stroke the animals and talk to them. Gradually they begin to talk about the animals to the staff and after that about everything else, too. Not all people are interested in animals, and they do not have to take part in the care. Those who are interested in animals, however, can gain a lot of communication skills from working with them.

As a foundation NeuroCity may receive donations from outside. However, the Social Insurance Institution of Finland (Kansaneläkelaitos, Kela) does not finance this method, for it does not recognize other animal-assisted therapies than riding therapy and wants therapists to be qualified riding therapists. The Finnish Foundation for Rehabilitation and Development and the NeuroCity Functional Centre are interested in both domestic and international cooperation and research in order to develop the methods further.

Vekkilä Museum Farm

The Vekkilä Museum Farm represents the atmosphere of the 14th century with modern features. There are sheep and horses on the farm. Although the farm concentrates on sheep farming and landscape maintenance it is involved in handicrafts and tourism, too. In an interview on 1 October 2004 Mrs. Kristiina Liinaharja provided the information for this section of this chapter.

The farm also organizes visits for tourists, children and disabled persons in cooperation with other entrepreneurs and institutes. The cooperation consists of a farmhouse with animals, horse stable with riding for disabled persons, accommodation for special groups, and a canoe catamaran for travelling in nature. The visitors gain experience of farming and may help to do some simple tasks or watch the owners do them at the farm. They may also ride the horses in the woods near the farm. There are even visitors who come to take exercise or to spend some quality time with each other at the farm. For example, it is good back exercise to ride a horse, and many office workers visit the farm just for physical rehabilitation. In this way, mental rehabilitation and relaxing come spontaneously.

The most important aspect in the activities is to teach the circle of life: animals are born, they grow up, get ill and die. The visitors, who may never have seen where their food actually comes from, learn it at the farm. It all contributes to one's sense of proportion and tells how important it is to love, to work and to be devoted to something, especially in our modern society where nothing seems to last for a long time.

The Vekkilä Museum farm is not eligible for the support of Social Insurance Institution of Finland (Kansaneläkelaitos, Kela). Some associations for disabled persons may finance the activities for their members and the local authorities may sometimes cooperate in matters related to children and youngsters, but there is no direct financial or other support.

POLICIES PROMOTING FARMING FOR HEALTH IN FINLAND

FH is related to priorities of social policy on the one hand and to the agricultural and rural policy on the other hand.

In its Government Programme, the Finnish government in office (Vanhanen) declares its support for further integration of the social-welfare and health-care systems in order to improve the well-being and health of the nation and to reduce exclusion. An effort will be made to promote new service production methods and technology and product development in social welfare and health care. State financing will be targeted specifically at ensuring care and support services for mental-health and drug-abuse patients. Surveys clarifying the impact of in- and outpatient care charges and the use of services and types of places that provide care will continue. To prevent social exclusion and to improve people's life-management skills, it is necessary to increase the number of joint service agencies and to expand multiprofessional cooperation between the social, health, education and employment authorities within a municipality, on the one hand, and between municipalities, the Social Insurance Institution (Kela) and other actors involved, on the other. Special attention will be drawn to children's mental health problems and the prevention of such problems, and to sufficiently fast access to care. Support services for chronically ill and disabled children and their families will be further developed (<http://www.valtioneuvosto.fi>). These general frameworks set by the present Finnish government contribute to the development of and cooperation on new, innovative health-promoting methods. FH can have excellent opportunities to become a recognized, official method of vocational rehabilitation within these frameworks.

The former Finnish government (Lipponen II) had already drawn up a health programme for the future. The Government Resolution on the 'Health 2015' public-health programme outlines the targets for Finland's national health policy. The main focus is on health promotion. The foundation for the strategy is provided by the Health for All programme of the WHO, dating from 1998. The strategy is a continuation of the Finnish national HFA 2000 programme. Health 2015 is a cooperation programme that provides a broad framework for health promotion in various areas of society. It reaches across different sectors of administration, since public health is largely determined by factors outside health care: lifestyles, living environment, quality of products, factors promoting and factors endangering community health. The settings of everyday life and the course of life play an important role in the programme. The strategy presents eight targets for public health, which focus on problems requiring concerted action by various bodies. They indicate the outcome aimed at in different phases of life. In addition, there are 36 statements concerning the lines of action underlined by the Government,

incorporating challenges and guidelines related to citizens' everyday environments and various actors in society (<http://www.terveys2015.fi>). In general, there are no direct obstacles to the development of FH in Finland.

As a member of European Union, Finland is implementing the common agricultural and rural policy. Agriculture in Finland has been rapidly changing during the past decade. The number of farms has decreased by some 30% and this development will continue. Low-productivity farming with health services may be a solution for many farms, located especially in the northern and eastern parts of Finland, where the decrease of 'traditional' farming is strongest. The EU agricultural-policy reform in 2006 will open new challenges for developing 'multifunctional agriculture', including on-farm health services. The policy measures of agriculture should be developed in such a way that these kinds of activities will be included in the support systems.

FH activities are also related to rural development as it is important to improve and diversify the rural livelihood, to develop the know-how and human resources, to strengthen the already existing services network and to utilize the natural possibilities that the rural areas have to offer in order to keep them viable (http://www.mmm.fi/maatalous_maaseudun_kehittaminen/).

Developing health and welfare services in the rural area has already been a policy aim in the current rural-development programmes. For example, 75 projects (<http://www.lande2000.fi>) have been funded by different national programmes (LEADER, POMO, ALMA etc.) aiming at improving the health and welfare services in rural areas. However, activities are not related to farming except some very few examples.

RESEARCH AND EDUCATION

The main problem is the lack of research on the effects of animal-assisted rehabilitation on human beings with various problems. However, there are only a few current studies related to animal-assisted therapy.

The research programme of Agrifood Research Finland (MTT) includes some projects of the University of Kuopio and of the University of Turku. Research is also needed in order to develop networks for different actors and activities. The research should cover the institutional basis, as well as organizational and financial issues related to the activities.

Although there already are some educational possibilities in Finland, a clear-cut, integrated coordination does not exist yet. Riding therapy is well organized, though. The main reason for the lack of coordination is probably that there are no explicit goals, in view of the still modest research.

FINANCIAL INSTRUMENTS

Especially the social services of municipalities and cities finance therapy for their customers as a hobby or traineeship, although the Social Insurance Institution of Finland does not recognize social-pedagogic rehabilitation as an official method of

vocational rehabilitation. The authorities do not finance these methods, although some private donors and associations may do so.

It appears that only riding therapy is financed by the Social Insurance Institution of Finland. The only exceptions to this rule are normal mental-health institutions, where other therapy methods and activities are part of the rehabilitation.

ONGOING PROJECTS

The Agrifood Research Centre, Environmental Research, runs a project in which the therapeutic use of cattle and sheep is explored. The focus is on native breeds, which are threatened to become extinct. Finland also takes part in the Forest and Health Project (<http://www.mtt.fi>).

In 2001 the Equestrian Federation of Finland (Suomen Ratsastajainliitto ry) started a project, in cooperation with the Department of Social Sciences of the University of Kuopio, in order to develop working methods and education of horse-assisted social pedagogy (<http://www.kkk.uku.fi>).

The Finnish Foundation for Rehabilitation and Development has hired a psychology student to work in the NeuroCity Functional Centre and to write her Master's thesis about the matters regarding animal-assisted therapy (David Gumpler and Hanna Viinimäki, pers. comm.).

Approximately 75 projects (<http://www.lande2000.fi>) have been funded by different national programmes (LEADER, POMO, ALMA etc.) in order to improve the health and welfare services in rural areas. The activities, however, are not related to farming, except for some very few examples.

A different project aims to create a functional model for a company providing services to adolescents who have been diagnosed with Asperger's syndrome (<http://www.lande2000.fi>). It should be mentioned, however, that all ongoing projects are not necessarily in the registers in use.

CONCLUSION

Farming for health and other health-promoting activities are starting gradually in Finland. The local and national authorities have already recognized the need for riding therapy, but other animal-assisted rehabilitation methods are not supported to a great extent. The riding therapy is well organized in Finland with its recognized status, association and financial background. Although there is only one educational establishment for riding therapy in our country at the moment, it seems to guarantee the further existence of the profession. Among private entrepreneurs, there are a hospital and a college for disabled persons which use the method in their work.

The other animal-assisted therapy methods are expanding all the time. The social pedagogic rehabilitation can be studied in courses of the University of Kuopio.

In addition to horses there are other animals involved with therapy. We already have farms that provide rehabilitation to their average customers and special groups, as well as we have centres for disabled persons in need of rehabilitation. The

financial structures have to be clarified in the immediate future in order to develop the working methods further.

In the long run, as soon as more research is conducted, the awareness of the possibilities of FH is recognized and new entrepreneurs become interested in it. There is a strong connection between our efforts to save the Finnish indigenous breeds from disappearance and the research related to FH and the health-promoting effects of plants, farm animals and landscapes. FH could be an essential part of the survival of indigenous breeds in the future, for the health-promoting effects of the animals could become an important field for the utilization of the indigenous breeds; especially, as the number of farms has decreased in our country and the development will go on. The low-productivity farming with health services may be a solution for many farms, located especially in the northern and eastern parts of Finland, where the decrease of 'traditional' farming is very strong.

FH is still a relatively new and unknown phenomenon in Finland, but it is, anyhow, expanding rapidly. Because of its innovative nature, it has not been mapped completely yet, although many research projects have already started in our country. The research is needed in order to define the phenomenon and its effects, and to create a basis on which the financial structures and working methods can be developed further. The main future challenge for FH in Finland is to become an officially recognized method of vocational rehabilitation. In order to reach this, one still needs a lot of both domestic and international research into the possible health-promoting effects of plants, animals and landscapes. The knowledge gained from research projects will contribute to the development of FH and to its status as a professional health-promoting activity.

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CHAPTER 12

CARE FARMS AND CARE GARDENS

Horticulture as therapy in the UK

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Abstract. This paper describes the use of Social and Therapeutic Horticulture (STH) for vulnerable people in the UK. Around 20,000 clients attend STH 'projects' each week. Projects provide activities for people with mental health problems, learning difficulties, physical disabilities, black and ethnic minorities and many other vulnerabilities. The benefits of attending projects include a structured routine and the opportunity for social contact. The natural, outdoor setting is particularly valued and may act as a *restorative environment* within the context of environmental psychology.

Keywords: social horticulture; therapeutic horticulture; hospital farms

A BRIEF HISTORY

In the UK the Victorian era was associated with the building of large new asylums for the mentally ill. These frequently had farms or market gardens which supplied those institutions with fresh produce and gave the inmates an occupation. Activity was considered a useful way of keeping the inmates out of mischief and of providing them with an interesting pastime. Farm work also gave the opportunity for a variety of different activities as the following extract from the Report of the Commissioners of the Scotch Board of Lunacy of 1881 shows:

"It is impossible to dismiss the subject of asylum farms without some reference to the way in which they contribute to the mental health of the inmates by affording subjects of interest to many of them. Even among patients drawn from urban districts, there are few to whom the operations of rural life present no features of interest; while to those drawn from rural districts the horses, the oxen, the sheep, and the crops are unfailing sources of attraction. The healthy mental action which we try to evoke in a somewhat artificial manner, by furnishing the walls of the rooms in which the patients live, with artistic decoration, is naturally supplied by the farm. For one patient who will be stirred to rational reflection or conversation by such a thing as a picture, twenty of the ordinary inmates of asylums will be so stirred in connection with the prospects of the crops, the points of a horse, the illness of a cow, the lifting of the potatoes, the growth of the trees, the state of the fences, or the sale of the pigs" (Tuke 1882, p. 383-384).

Although that passage was written over one hundred years ago many of those who are familiar with the use of agriculture and horticulture for people with mental health problems would express similar sentiments today.

The old Victorian asylums were replaced by newer mental hospitals, many of which also had farms and gardens to keep the patients active and to feed the institutions. Farming was not the only outdoor activity associated with hospitals. Gardening work was seen as a way of helping people who were recovering from physical injuries to strengthen and build up damaged bones and muscles. In his book, *The Rehabilitation of the Injured*, Colson (1944) describes different gardening activities that may be used as therapy and lists specific activities to develop movement in particular joints (p. x-xvi). Gardening was used to 'treat' not only the physically injured but also those with mental health problems and learning difficulties. It became one of the 'specific activities' of occupational therapy as the discipline developed in the 1950s and '60s and is still used today. However, the activities used in occupational therapy have tended to vary according to the availability of facilities and changing attitudes and it is not known how many occupational therapists use gardening at present.

As the care and treatment of mental patients changed and the hospital system was restructured and modernized, particularly in the late 1960s and '70s, the hospital farms were gradually closed. Indeed, there had been some disquiet concerning the use of patients as 'labour', not only on farms but in other aspects of the running of the hospitals. Bickford (1963) wrote:

"That patients should do a little domestic work, to foster a feeling of community and to teach them how to care for their homes, is reasonable. What is unreasonable is the extent to which the hospital is dependent on their work. In fact, without it the hospital could not run and the mental hospital service would collapse" (Bickford 1963 in Szasz 1974, p. 193-194).

Hospital farms faded from the scene and much of the land was sold off. Some of it was used for development and it seemed that agriculture and horticulture would be irretrievably lost as activities for patients and those recovering from illness.

'SOCIAL AND THERAPEUTIC HORTICULTURE'

Hospital farms may have disappeared but the use of horticulture and gardening as a complement to therapy, both associated with hospitals and outside, has grown. In most cases these are organized 'projects' to which clients or patients are referred (or join voluntarily) and which they attend regularly. They are frequently funded (to some extent) by social-services departments and health trusts but often struggle to keep financially solvent and have to find additional funding through grants, commercial activities and other ventures.

They occupy a similar niche in the provision of health and social care as the European 'care farms'. Indeed, a small number of projects are based on farms and some city farms provide similar care. The 'clients' (although many projects do not use the term 'clients' as it tends to 'medicalize' their activities and prefer to call them 'volunteers', 'project members' or 'workers') come from many different

vulnerable groups, but the greatest number are those with mental health problems and learning difficulties.

The structured use of gardening at projects is often termed 'horticultural therapy' or 'therapeutic horticulture'¹. Frequently these terms are used interchangeably. They refer to the process of interaction between the individual and the plants or gardens and (in most cases) facilitated by a trained practitioner. The following definitions were agreed by practitioners at a conference on Professional Development organized by the charity *Thrive* in September 1999:

"Horticultural therapy is the use of plants by a trained professional as a medium through which certain clinically defined goals may be met."

"Therapeutic horticulture is the process by which individuals may develop well-being using plants and horticulture. This is achieved by active or passive involvement" (Growth Point 1999, p. 4).

Horticultural therapy has a pre-defined clinical goal similar to that found in occupational therapy from which it has developed, whilst therapeutic horticulture is directed towards improving the well-being of the individual in a more generalized way. This can be the attainment of employment, an increased sense of self-esteem or some other perceived benefit. The term 'social and therapeutic horticulture' (STH) probably best describes the process by which horticulture is used to develop well-being since *social* interactions and outcomes play a significant role. From a research point of view it is useful to refer to these activities as 'therapy' since it helps to identify an area of study; however, many of those working in the field avoid using that term because, like the word 'client', it appears to focus on illness or disability rather than the work carried out.

In order to study the extent of activity and interest in social and therapeutic horticulture in the UK a survey was carried out in 2003 as part of the *Growing Together* programme. This is a three-year research project by the Centre for Child and Family Research at Loughborough University in partnership with Thrive. Thrive is the main UK organization which supports garden activities as a means of "tackling disadvantage and improving the quality of people's lives using gardening and horticulture". It was founded in 1978 as the *Society for Horticultural Therapy* by a young horticulturist, Chris Underhill, as a result of his work with people with learning difficulties. The organization has continued to grow and now provides help and advice to a network of projects across the UK.

In 1998 it carried out a survey of known projects and around 1,500 'projects' were identified and logged onto a database. However, it soon became clear that some of the entries in the database classified as 'projects' were not active ones. Some were individuals with an interest in starting new projects while others were projects that had closed down. In 2003 a new survey form was designed and distributed to the 1,500 named individuals with the Thrive-network newsletter. Non-respondents were followed up with an additional form and a telephone call.

A total of 836 active projects responded to the survey by the end of 2003. Their responses showed that the area of STH as a source of service provision for vulnerable people has been steadily building for the past twenty years. The first project still active in the network started in 1955 and 78 new projects were added by

1985. The following years showed a sharp rise in the number of projects starting up which reached its peak in 2002 with 58 new ones in that year. From the mid 1980s there was also an increase in the involvement of local authorities and health authorities with STH projects. Whilst up to 1985, projects were started predominantly by charities, after that year local authorities, health-care trusts and social services were involved in setting up many new projects. For example, in the period 1956 – 1980 only six of the thirty new projects were associated with local authorities or the National Health Service (NHS), but in the period 1996 – 2000 this had risen to 112 of the 209 new projects.

Projects vary in size and capacity. Seventy-eight percent of those in the survey had 30 or fewer clients per week, but 7.2% reported over 50 clients. The mean number of users was calculated as 25.3/project/week and extrapolating this figure to the total number of respondents in the survey suggests that around 21,000 clients attend STH projects in the UK each week. In other words, the projects provide approximately one million client placements per year. It is likely that the total number of *individuals* using STH projects per year is close to the weekly figure since the pattern of use is that of regular attendance and data from interviews suggest that client turnover is low.

The published literature on STH reports participation by many different vulnerable groups. Indeed, virtually every group appears to be represented and many projects also provide a service to clients from more than one group. Of the projects in this survey only 35.5% worked with one client group, the rest had multiple client groups. Almost half (46.4%) worked with 3 groups or more. Table 1 lists the main groups attending the projects. Almost half of the projects provided a service for people with learning difficulties and mental health needs. This is perhaps unsurprising since these two groups represent the historical core of gardening projects.

Around 30% of the total users of STH projects are women and 20 projects in the network catered for women-only groups. It is unclear why women are under-represented. It is possible that women may be deterred by the perceived physical nature of the work but data from visits to projects show that the gender distribution of project workers and volunteers is equal. Our observations also suggest that the actual physical workload at projects does not appear excessive and is shared between the genders and between people with physical disabilities and those without. Further research is necessary to discover why so few women attend the projects as clients.

It was estimated that around 6.2% of clients came from black and ethnic minorities. This is greater than the estimate produced by Naidoo et al. (2001), who surveyed the same project network. However, their response rate (113 projects) was much lower than that in the present study. The 2001 Census² reported that 7.9% (4.6 million people) of the total population of the UK was from black and ethnic minorities although the distribution varied significantly across the country. These data suggest that ethnic minorities are slightly under-represented at STH projects if

Table 1. Main client groups attending gardening projects

Main client group	Number of projects
Learning difficulties	407
Mental health needs	339
Challenging behaviours	144
Physical disabilities	141
Unemployed	116
Multiple disabilities	98
Young people	91
Older people	89
Low income	78
Drug and alcohol misuse	74
Rehabilitation	60
Accident / illness	50
Visually impaired	45
Offenders	43
Hearing impaired	39
Black and ethnic minorities	36
Ex-offenders	31
Major illness	30
Homeless and vulnerably housed	20
Women only groups	20
Refugees / asylum seekers	9

the comparison is made purely in terms of percentages of the population. However, the projects provide a service for vulnerable people and those at risk of social exclusion. If these risks are greater among black and ethnic minorities then the degree of under-representation is also greater in real terms. Naidoo et al. (2001) have suggested a strategy for increasing participation by black and ethnic minority groups in STH projects. They identified the barriers to involvement in the projects as being both cultural and organizational, for example:

"Most interviewees identified cultural barriers to the involvement of BMEGs [Black and Minority Ethnic Groups] in horticultural projects. Cultural barriers included gender roles, especially the presumed reluctance of South Asian women to engage in activities outside the home, and a lack of interest in horticulture, which might be viewed as unimportant or unpaid work rather than a leisure pursuit" (Naidoo et al. 2001, p. 15).

"The most commonly cited barrier in the questionnaires, the lack of BMEGs living locally, may also be viewed as an organizational barrier, in that the relative invisibility of BMEGs is a perception rather than reality. For many rural projects, there may be few BME people living locally, but for projects located in towns and cities, or taking referrals from towns and cities, it is likely that there are BMEGs in the locality" (Naidoo et al. 2001, p. 18-19).

It is unclear whether the under-representation of women and black and ethnic minorities at STH projects is a feature of UK projects or whether a similar situation

exists in Europe as a whole in respect of care farms and horticulture-based projects. This is an area that should be addressed as other European experiences may be of help in preparing a strategy to promote STH to these groups.

THE 'GARDENS'

Although 'therapeutic horticulture' has its roots (or some of them at least) in the old hospital farms the type of space now used for horticulture projects is varied. These include farms, gardens, allotments, city farms and others. Additionally many projects carry out gardening and conservation work away from their own sites. Table 2 shows the number of projects in each type of site.

Table 2. Types of site used for garden projects

	Number of projects
Garden	321
Nursery / Garden centre	185
Allotment	153
Community garden	117
Outreach	85
Park/open space / country park	56
Farm	44
City farm	20
Other	16
Conservation / woodland	15
Total number of projects	836

'Gardens' and 'community gardens' make up over half of the projects (52%). These encompass a variety of different spaces – private gardens, hospital gardens, gardens created on derelict space. They demonstrate the inventiveness and perseverance of project organizers in securing a space for themselves and their clients and volunteers.

Around 18% of projects are based on allotments. Allotments have had a unique place in the British landscape and culture for many years (see Crouch and Ward 1997). Their heyday came during the immediate post-war years when the food grown on them was most welcome at a time of shortages. As prosperity increased so interest in them dwindled and plots became vacant and were lost to development and building. Although allotments were originally intended to provide land for cultivation by individuals and their families, vacant plots have been taken over by community groups to provide social and therapeutic horticulture. One particular advantage of projects based on allotments is that they are able to interact and integrate with local communities for mutual benefit. Recent research (Phelan and Link 2004) suggests that people's fear of the mentally ill is due to a lack of contact with them rather than as a consequence of observing their symptomatic behaviour.

Integration with local communities, therefore, may help to allay people's fears of the mentally ill and those with learning difficulties. Another useful feature of allotments is that the plots are of a manageable size³ and are rented individually. As projects expand additional vacant plots can be rented. This not only provides land for the projects but also prevents the allotment site from appearing neglected through many vacant and overgrown plots. In many cases local authorities have offered plots to community groups for STH at reduced or nominal rents in order to increase the occupancy rate. However, UK rents for allotment plots are not expensive – usually £25 - £30 (ca €37 - €44) per year for a 250m² plot.

A few projects in the survey (8%) were based on farms and city farms. Some of the farms have turned their focus from straightforward agricultural production to providing training for vulnerable people. This includes horticultural training, the use of machinery, animal husbandry and even computing and information technology. These skills may help trainees to find employment in the agricultural sector, they may also enable them to form social firms and cooperatives and so be part of productive units.

City farms encourage the involvement of local urban communities with gardening, farming and food production. The Federation of City Farms and Community Gardens lists almost fifty city farms in the UK which are open to the public. The farms also provide training places in land-based subjects including horticulture and crafts such as woodwork for people with learning difficulties. The Federation estimates that around 2,500 such places are provided each year by community gardens and city farms. In addition to horticulture, city farms offer an opportunity for people living in an urban environment to be involved with the care of a variety of domestic and farm animals. The therapeutic benefits of contact with animals is widely recognized and the practice of 'animal-assisted therapy' or 'pet therapy' is well established in the US. However, the extent of the use of such therapies in the UK is not known. All 20 of the city farms in the survey, and 34 of the 44 farms (77%), offered animal care as one of their activities. Additionally, a further 52 projects were involved with animal care (a total of 106 projects). However, it is likely that many other individuals and organizations using animal-assisted therapy in the UK operate outside of organized garden projects. For example, the charity 'Pets as Therapy' has around 4,000 volunteers, who together with their pet dogs and cats, visit patients and residents in hospitals, hospices and care homes. It estimates that approximately 100,000 people each week receive a visit from their volunteers. The rising level of interest in this field has led to the launch of a new course at Myerscough College, UK leading to the 'Professional Certificate in Animal Assisted Therapy' for the accreditation of practitioners. There is also active research in the use of these therapies, encouraged by the 'Society for Companion Animal Studies' which aims "to advance the understanding of relationships between people and companion animals and to disseminate information about human/companion animal relationships" through its multi-disciplinary network. It has a membership which includes health- and social-care practitioners, researchers and interested members of the general public, and it produces a journal and holds regular meetings. Additionally, a new programme of research has recently begun at Anglia Polytechnic University in the UK to explore

the benefits of 'ecotherapy' – the use of nature and wildlife as a form of therapy for people with disabilities. Burls (2004) has suggested that the benefits of nature are more pronounced in people with disabilities and those who are socially marginalized:

"The preliminary findings indicate that although people generally experience a sense of wellbeing when in contact with nature, the effect is much more pronounced for disabled and marginalized people, helping them to become less socially excluded. As well as experiencing positive physical and psychological health improvements, they also reconnect with their communities, some reaching a higher level of socio-political identity" (Burls 2004).

These recent developments suggest that interest in nature and animal care as a form of therapy is growing alongside the use of horticulture.

Commercial enterprises such as garden centres and nurseries are also involved with STH although few, if any, make an economic profit from these activities. Like all other projects they are reliant on grants and fees paid by social services and health trusts. They do provide an environment in which their clients are able to engage in sheltered work and in some cases prepare themselves for employment outside. The productivity of these enterprises reinforces the perceived role of the client as a 'worker' and not as someone purely engaged in a form of therapy.

Table 3. Organizations connected to garden projects

	Number of projects	Percent
Hospital	119	14.2
College	99	11.8
Residential home	77	9.2
Community centre	46	5.5
School	39	4.7
Therapeutic community	37	4.4
Rehabilitation centre	36	4.3
Garden centre / commercial	33	3.9
Secure unit	25	3.0
Special school	20	2.4
Hospice	11	1.3
Prison	9	1.1
University	3	0.4

(554 respondents - percentages of 836 respondents)

Over half of the projects in our survey were connected or associated with an educational or care establishment or institution (see Table 3). The largest single grouping was that connected to hospitals (14.2%) showing the continuing association of hospitals with horticulture. These gardens have been created by occupational-therapy departments and provide training for patients and also opportunities for relaxation for staff and sometimes visitors. Twenty-nine projects

were located in prisons or secure psychiatric units. This is certainly an underestimate of the level of horticulture and agriculture activity that is carried out in those settings. Grimshaw and King (2003) identified 101 projects within prisons and secure units. Even this figure may not reveal the true extent of activity as they only had a 30% response to their survey.

Although we refer to these projects as 'horticulture' projects many of them also offered other activities such as building and construction work, art and crafts and more. One hundred and fifty-seven projects in the survey reported that they had craft workshops. During our visits to 25 projects we observed examples of art forms such as sculpture, wood carving, painting and mosaics; crafts such as ironwork, woodwork, wood-turning; conservation and landscaping. All of these activities can come under the umbrella of gardening since they are used to decorate or improve the garden space. This engenders a sense of 'belonging' and a sense of place. Clients who were engaged solely, for example, in slab-laying or bricklaying still considered themselves 'gardeners' because they were working for the benefit of the garden.

Many different skills and activities are needed to create and maintain a garden – just like the variety of jobs on a farm referred to in the first passage of this chapter. STH projects, therefore, offer the opportunity for variety and the hope that there will be *something for everyone* to do.

FUNDING AND FINANCE

Projects obtained their funding from a wide variety of different sources. Around ten percent made a charge directly to their clients whilst over half (54%) received fees for clients from local authorities and health trusts. Sometimes the fees were paid on a *per capita* basis for named individuals but at times a 'block' fee was paid to the projects to provide a service for a set number of clients. Our interviews with project organizers suggested that in many cases projects took on more clients than had been paid for because they did not wish to turn away potentially vulnerable people.

Additional funding was obtained through grants and payments from local and central government (excluding fee payments), public fundraising and sales of arts, crafts, plants and produce. Where a charge was made (either to the client or authority) the average fee was £27 (ca €40) per session although this varied from as little as fifty pence (ca €0.74) to £137 (ca €203). However, 86% of projects charged between £10 and £60 (ca €15 to €89).

Having produced an estimate of the number of sessions per year and with the knowledge of projects' annual budgets it was possible to estimate the mean cost of an individual client session - £53.68 (ca €79). This is higher than the average client fee of £27 (ca €40) and suggests that projects are undercharging for their services and as a result are having to find additional funding through grants, sales etc. Interestingly, the cost of a session at a horticulture project is similar to that at a National Health Service (NHS) or local-authority day centre - around £54 (ca €80) per session but dependent on the client group (see Netten et al. 2001, p. 57, 58, 73, 74).

The majority of projects operated on an annual budget of less than £10,000 (ca €14,800) and 71.7% on a budget of less than £50,000 (ca €74,000). Projects with larger budgets supported more clients but the relationship between mean client numbers and budget size was not linear (see Table 4). If the number of clients is doubled it is necessary to increase the size of the budget by up to tenfold. It is interesting to consider why economies of scale appear to work in the reverse for STH projects. It may be that as projects expand they are able to offer more, and more expensive services, or that staffing needs grow disproportionately to client numbers.

Table 4. Annual budget and number of clients at projects

Total annual budget		Mean number of clients
GBP	Euro (approximately)	
Less than £10,000	Less than €14,800	15.1
£10,000 - £50,000	€14,800 - €74,000	26.6
£50,000 - £100,000	€74,000 - €148,100	32.6
£100,000 - £500,000	€148,100 - €740,300	41.5
Over £500,000	Over €740,300	50.0

(Data from 546 projects)

The data obtained in the survey also show a difference in costs between services for people with mental health problems (£38.92 per client session, ca €58) and those with learning difficulties (£56.57, ca €84). This may reflect salary costs since the mean number of staff at STH projects which provide a service only for people with learning difficulties was greater (2.5) than that for projects providing services for people with mental health problems (1.6). Session costs are in proportion to staffing levels.

Finally it was possible to estimate the total budget for this sector of care at around £54.5 (ca €81) million per year.

THE BENEFITS OF SOCIAL AND THERAPEUTIC HORTICULTURE

In order to examine the benefits of STH twenty-five projects were examined in depth and 137 clients and 81 project workers and carers were interviewed. The significance of the projects in participants' lives was compared with that of paid employment. Employment is not only a source of pay but a source of social and psychological benefits. Morse and Weiss (1955) were the first to show that money was not the only motivation in employment and that the majority of working men (80%) would continue to work even if they inherited sufficient money to live comfortably without working. A similar study carried out almost twenty-five years later (Vecchio 1980) showed that although this percentage had fallen the vast majority (72%) would still choose to work. A substantial literature has grown up around the benefits of employment and these have been likened to 'vitamins' for mental health. Jahoda (1979) has argued that employment and the working

environment provide a latent support i.e. unintended consequences of work for the employed in the form of five key dimensions, namely:

“employment imposes a time structure on the waking day ... employment implies regularly shared experiences and contacts with people outside the nuclear family ... employment links an individual to goals and purposes which transcend his own ... employment defines aspects of personal status and identity ... employment enforces activity” (Jahoda 1979, p. 313; for a review and critique of the literature on unemployment see Fryer and Payne 1986).

Our observations of STH projects suggest that they also provide benefits in these key dimensions. They impose a structure and a daily routine on clients' time similar to that seen by people in paid employment. More than half of the clients (50.4%) attended a project for three days or more each week and spent around 5.5 hours there. They viewed their activity as ‘work’ and rarely as therapy. They spoke of themselves as ‘*gardeners*’ or ‘*workers*’. They recognized, however, that there was considerably less pressure on them to be productive than in a commercial environment. The lack of pressure probably contributed to their enjoyment and well-being but when an increased effort was necessary they appeared content to join in:

“That went on forever and it, like, we were all out there, and it was just like a chain gang. I mean, it was all funny ... It was hard work, it was good. You know, it was hard work, so, in that sense, it was exercise, it was good. And it was funny, because we were all out there just laughing at each other”.

Few, however, found paid employment. A year after our initial visits to the project less than ten percent of those we interviewed were in full-time work. Project managers and organizers did not see the move to employment as necessarily desirable. Many clients were not ready for employment and a push towards it could be particularly damaging for vulnerable people. Individual client progress within projects (and towards goals outside, if appropriate) was seen as important and clients were encouraged through training, individual targets and through the use of supported volunteering and supported work schemes.

A small number of the projects (65) provided paid sheltered employment. Others were able to offer small amounts of money as expenses, attendance allowance or as a share of profit in a cooperative commercial venture. This ‘pay’ was seen as important and was instrumental in raising the status of the participant from that of *client* to that of *worker* even when the actual monetary value of the pay was small. The project participants were able to buy simple luxuries – cigarettes and magazines – with money that they had earned.

Another theme associated with work that emerged during interviews was the use of tools and machinery. In our study work with tools was seen by some as particularly enjoyable. Tools may define work; and the worker who is able to use them as a skilled and useful person. Morse and Weiss (1955) noted:

“Working class occupations emphasize work with tools, operation of machines, lifting, carrying, and the individual is probably orientated to the effort rather than the end. Therefore life without working becomes life without anything to do”.

In the modern age it is not just ‘working-class occupations’ that are defined by the tools they use – doctors, for example, are inextricably linked to their

stethoscopes and businessmen to their laptops and mobile telephones. Leisure activities are also associated with tools – the DIY enthusiast with his (or her⁴) array of power tools; gardeners with their spades. The access to tools and machinery and the ability to use them puts project participants in the same ‘class’ as other users. It empowers them.

SOCIAL OPPORTUNITIES

Participating in an STH project provides an opportunity for clients to develop new social contacts, to extend established networks and to indulge in social activity with friends and acquaintances. The projects also offer clients the chance to mix with new acquaintances with whom they share common interests and who often also have the same or similar health problems or vulnerabilities. In our experience this does not appear to be a chance to sit and complain about mutual woes but a genuine exchange of help and advice.

The desire for regular contact with others and the opportunity to make new friends is also a key factor in clients’ attendance at projects. Most of those we interviewed said that they had made a number of friendships at projects and many also reported that they had made friends who had become particularly important to them. Some friendships extended beyond the project although the number of clients who socialized with other clients outside project hours was not high. Just under half of respondents said that they socialized ‘sometimes’ or ‘quite often’ with fellow project members. However, the other half ‘rarely’ socialized or not at all; for these respondents the projects may represent the main, if not the only opportunity for social contact, as one man with mental health problems remarked:

“And it’s helped tremendously, just getting me out of myself and, mixing with other people, because apart from that, I don’t socialize at all. I don’t have any friends and these are the only people that I mix with”.

FRESH AIR

Many of those we interviewed said that they liked ‘*to be outside*’ or enjoyed ‘*the fresh air*’. These two constructs are linked to a sense of freedom, a perception of health, contact with the natural environment and a notion of physical exercise. Our interviewees expressed all of these themes. To some being outside was clearly an opportunity to be free from the constraints of an indoor environment:

“Um, being outside is very nice, enjoyable, I mean I’ve had jobs and I’ve worked in factories and stuff before now and it’s just nice to be in the open, be a bit like, free”.

Whilst for others the outdoor environment enabled a connectedness to nature itself:

“The garden itself has been fantastic in terms of being outside, and just the beauty of this place, and the beauty of gardening, getting me more switched on in terms of gardens and, you know, plants, and, you know, the natural world”.

Some clients particularly enjoyed looking after plants – taking responsibility for them and nurturing them from a seed or seedling to a mature plant. Research in environmental psychology suggests that the natural environment promotes recovery from stress (Ulrich et al. 1991) and helps to restore the ability to focus attention once it has become fatigued either through prolonged concentration or illness – an effect termed ‘attention restoration theory’ (see Kaplan and Kaplan 1989). The natural environment is often therefore referred to as a ‘*restorative*’ environment (see Sempik et al. 2003). Two specific dimensions of the restorative environment have been termed *fascination* – the ability for something to hold attention without the use of effort, and *being away* – the sense of escape from a part of life that is ordinarily present and not always preferred. The natural environment provides these dimensions although they may be present in different measures for different people and ‘being outside’ may have a different meaning and significance to different individuals.

CONCLUSION

This chapter has briefly described the state of practice of social and therapeutic horticulture in the UK and has examined some of the benefits associated with it. Researchers working in the field of social and therapeutic horticulture are frequently asked what it is about gardening projects that is beneficial. A brief answer could be that these projects provide similar social and psychological benefits as paid employment – social opportunities, a sense of identity and status, engagement with an interrelated set of activities that has purpose and coherence; the activities take place within a garden space that has been created and defined and this engenders a sense of belonging and a sense of place; and they take place within a natural environment which enables the *restorative* experience.

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NOTES

¹ Training in 'therapeutic horticulture' in the UK leading to the certificate or diploma is provided by Coventry University in conjunction with Thrive.

² UK 2001 Census data available from National Statistics: <http://www.statistics.gov.uk/>

³ By law the maximum size of a UK allotment plot is 40 'poles'. This is equivalent to 1,210 square yards or 1,012 square metres (1 pole = 30¼ square yards; the terms 'rod', 'pole' and 'perch' are interchangeable). In practice the usual size of a 'full-sized' plot is 10 poles i.e. 253 square metres.

⁴ Because of the relatively small number of women in the study we have not been able to explore the link (if any) between gender and the use of tools and machinery on garden projects.

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CHAPTER 13

FARMING FOR HEALTH IN THE NETHERLANDS

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Abstract. Farming for Health is a growing phenomenon in The Netherlands. The most significant exponent is the Green Care farm. The number of Green Care farms has increased from 75 in 1998 to 430 in 2004. Different target groups make use of Green Care farms: clients with a mental disability, with psychiatric problems, elderly (with dementia), clients with an addiction history, people with burn-out, children and long-term unemployed persons.

In urban areas the health-promoting qualities of city farms, community and allotment gardens and healing gardens is getting more attention. The experiences of different target groups on Green Care farms and on urban green locations are positive. The farm or green environment can improve physical, social and psychic health. The Green Care sector consists of an extensive network, including a national support centre and association of Green Care farmers.

Different research projects have started. They focus on the effects of Green Care farms and nature on the well-being of clients and citizens and the health-promoting aspects of the green environment. Several educational initiatives have started.

Main challenges are:

- to bridge urban and rural networks
- to develop sustainable financing structures for Farming for Health
- to develop scientific evidence for the positive effects of Green Care farms and nature on health and well-being, and to determine the health-promoting aspects for different target groups
- to use farms and nature not only in a curative way but also for prevention, and
- to develop new systems that combine agriculture, care, recreation and education.

Keywords: green care farm; target groups; gardens; city farms; horticultural therapy

INTRODUCTION

Farming for Health (FH) is a growing phenomenon in The Netherlands. The most significant exponents are Green Care farms. The number of Green Care farms is increasing rapidly. The combination of agriculture and care started as a bottom-up process, initiated by motivated farmers. The increase in the number of Green Care farms can be seen as an example of growing interest in the relationships between nature and health. This interest was stimulated by a recent report of the Health Council and the Dutch Advisory Council for Research on Spatial Planning, Nature and the Environment on the effect of nature on well-being. Special attention was

given to the significance of green areas for health and well being of the urban population. Urban green areas such as community gardens, allotment gardens and city farms can contribute to the health of urban citizens. Other elements of FH are horticultural therapy and healing gardens. They are not very well known in The Netherlands.

The development of Green Care farms is described in this chapter, followed by other examples of Farming for Health in the urban areas. Some interesting projects and the main challenges are discussed.

HISTORY AND DEVELOPMENT OF AGRICULTURE AND CARE IN THE NETHERLANDS IN THE 20TH CENTURY

Agriculture

Agriculture has changed rapidly in The Netherlands during the last century. Around 1900 most farms consisted of the farmer's family and maids and servants all working on the farm. With the industrial revolution the maids and servants went to the cities to work in factories; they left the countryside. By 1950 most farms were run by the farmer's family only (Bieleman 1992). After World War II, when food production in The Netherlands was insufficient, the agricultural policy was focused on increasing production, intensification, increase in efficiency and specialization. An exponent of this policy was the former Dutch minister of Agriculture Sicco Mansholt, who presented his European Mansholt plan for agriculture in 1968. This successful growing model resulted in enormous surpluses. Further intensification and industrialization of agriculture have been under discussion in recent decades. Society demands farming systems that respect animal welfare and that are ecologically, economically and socially sustainable (Commisie Wijffels 2001). An increasing number of farmers see no future in further intensification and opt for new activities such as landscape and nature conservation, energy production and recreation. They try to meet the changing needs of society and consumers and to restore old, and build new, links between rural and urban areas. In 2002 40% of the farmers already had other activities besides food production (Van der Ploeg 2002).

Care

The number of psychiatric and mental disabled increased in the middle of the 19th century. The increase of the population in general, industrialization and decreasing tolerance towards abnormal behaviour were the cause of this increase (Van Schaik 1997). The government set up institutions to keep the 'lunatics' in order and peace. The institutions had the function of nursing home, shelter for the homeless, as well as prison. The institutions were located in the woods and rural areas of the country. Medicalization and scientification of care made people see psychiatric and mental disabled as ill persons who need to be cured (Schnabel 1995).

The opposition against the large institutions resulted in investigations of the possibilities of community care. The first Dutch experiment to combine institutional care with community care was started in 1922 in a rural area of The Netherlands.

Between 1920 and 1940 labour was considered a healing instrument in psychiatric institutions. At that time most institutions had their own farm. Labour was not yet considered a tool for integration into society. However, in the 1950s and '60s labour disappeared from psychiatric institutions. It was considered to be repressing and not therapeutic. The days of clients were filled with new creative therapies with therapeutic goals. The institutions were still hierarchical organizations. Around 1970 the antipsychiatric movement demanded a more client-centred approach and a more equal relationship between patients and health-institution staff (Kramer 1990). Individual autonomy and self-development became popular terms.

The care policy of mentally challenged people has gone through the same development as that of psychiatric patients, with the difference that the educational approach and work were more important in the treatment of mentally challenged people. Since the 1960s there was a growing interest in the capabilities of the client instead of his or her limitations.

Also in the care for the elderly, and especially for elderly with Alzheimer's disease, the focus is shifting from a medical model to a model with emphasis on daily life and long-term care. This opens more and more possibilities for Green Care farms to host elderly in need of long-term care. In these cases working on the farm has no therapeutic or rehabilitation purpose but is used as a meaningful daily occupation.

Nowadays integration of clients into society, providing meaningful work that leads to greater independence and social status, and taking the potentials of clients instead of their limitations as starting point, are central elements in the desired renewal of the health care and rehabilitation sector.

Agriculture and care

The combination of agricultural production and social care is not really new in The Netherlands. Some farmers and health institutions have always experienced the benefits of combining agriculture and care, and continued to combine both functions irrespective of the opposing developments in agriculture and health care. These pioneers were strongly motivated and were often inspired by anthroposophic philosophy. Nowadays the combination of agriculture and social care is seen as a promising combination of functions. The combination of agriculture and social care contributes to the diversification of agricultural production, provides new sources of income and employment for farmers and the rural area, reintegrates agriculture into society and has a positive impact on the image of agriculture (Driest 1997; Van Schaik 1997; Hassink 2001). In addition, these sheltered farms provide concrete examples of the desired renewal of the health-care and rehabilitation sectors.

NUMBER AND DIVERSITY OF GREEN CARE FARMS

The National Support Centre for Agriculture and Care has a database of all farms in The Netherlands that combine agricultural activities with some type of care. This means that different types of Green Care farms are included in this database, like regular farms where mentally challenged people work but also children's zoos with day activity for psychiatric patients (Ketelaars et al. 2002).

Number of Green Care farms

Between 1998 and 2004 the number of Green Care farms increased dramatically from 75 to 432 (Table 1). A considerable number of farmers are interested to adapt their farm and in combining agriculture with social care (Table 1). According to research of the Reinoud Adviesgroep, the number of Green Care farms can increase to 1100 (Kramer and Claessens 2002).

Table 1. Number of Green Care farms and interested farmers

	1998	2000	2001	2003	2004
Actual number of Green Care farms	75	214	323	372	432
Number of farmers who have made a project plan for Green Care	13	49	55	53	28
Number of farmers interested in starting Green Care	0	114	110	141	119

Green Care farms are not evenly spread over the country. There is a concentration of Green Care farms in the central and eastern parts of The Netherlands. Especially the province of Gelderland has a large number of Green Care farms. This is probably due to the fact that these areas originally have more care institutions than other parts of The Netherlands and that these farms are more suited for Green Care as they are relatively small and less specialized (Elings et al. 2003).

Diversity in target groups

In the 1990s the main target groups were mentally challenged people and people with psychiatric problems. The last couple of years there is a growing number of other target groups, like elderly, people with an addiction, people with burn-out, long-term unemployed, children, people in isolation, homeless people and clients in a social or work integration project. A new phenomenon is the use of the farm in a preventive way instead of a curative way. One farmer, e.g., offers inspiration courses for managers on his farm and the surrounding land.

A large number of Green Care farms combine different target groups. This has two advantages, financing of clients is possible from different kinds of sources, and people with different disabilities can help each other in their activities and handicaps. Table 2 shows how many Green Care farms opt to receive a specific target group. This does not mean that these target groups are actually working on this farm. It is possible that a Green Care farm is open to people with a mental handicap as well as clients with a psychiatric background but that in fact only mentally challenged people are working on a particular farm (Ketelaars et al. 2002).

The number of clients at Green Care farms varies and may range from one to forty or even fifty clients who are working each week. Especially Green Care farms that are part of a care institute have a large number of people who are working or who are following a day-activity programme on the farm. At the moment the total number of clients who are working or living on a Green Care farm in The Netherlands is about 8,000.

Table 2. Number of Green Care farms and the target groups that are welcome

	2001	2003	2004
Mentally challenged	238	271	301
Psychiatric demand	103	118	156
(Ex) prisoners	33	30	28
(Ex) addicts	43	40	48
Psychically handicapped	43	55	75
Nursery	12	13	18
Young people	42	42	62
Elderly with dementia	31	39	42
Elderly	-	-	32
Long unemployed	28	32	63
Burn-out	27	35	68
Autistic persons	-	11	61
Persons seeking political asylum	7	6	7
Special education for people with learning difficulties	-	-	42
Non innate brain injury	-	-	21

Diversity in activities and goals

In the 1990s most of the farms that combine agriculture and care were organic farms. In recent years the percentage of conventional farms is increasing. Different agricultural activities are performed by the clients. Poultry, cattle and small livestock are the most common animals on Green Care farms. Most Green Care farms also include horticultural activities. Other functions like recreation, nature and forest conservation are performed by a minority of Green Care farms (Table 3).

Table 3. Activities offered by Green Care farms

	2003	2004
Pigs	133	109
Cows	185	199
Poultry	195	205
Sheep	154	173
Goat	144	158
Small livestock	205	196
Farming	90	92
Horticulture	174	195
Fruit growing	72	80
Nature conservation	66	69
Campsite	34	36
Forest conservation	49	50
Recreation	-	18

In most cases care consists of providing people with a worthwhile daytime occupation (90%), work training and/or a sheltered place to work (30%). There are also farms that offer participants a place to live (20%). Gradually all participants will make up their own plans and discover their own qualities. After a while each participant will have his or her own detailed aims, which may be having a useful daytime occupation or more personal such as to settle down, reflection, building resistance or experience nature.

Different connections of Green Care farms with health institutions and different financing structures

There are different constructions in which Green Care farms operate. A relatively small minority is part of a health institution (Table 4). Approximately one third of the Green Care farms have a formal cooperation with a care institution. The health institution pays the farmer for the care activities. In this case the farmer has to negotiate financing with the health institution. Approximately 25% of the farms receive clients with a personal budget (PGB). This personal budget can be used by the client or the client's representatives to buy supportive or stimulating day activities on the farm. The client with a personal budget has a direct contract with a Green Care farm, without interference of a health institution. The PGB was introduced to diversify the supply of care and to shorten waiting lists. A growing number of Green Care farms have an 'AWBZ' accreditation. The AWBZ is the general insurance for special medical costs. It was created to ensure that all inhabitants of The Netherlands have insurance cover against serious medical risks. It is compulsory for all Dutch inhabitants and covers costs of nursing homes, care for the handicapped, home care and care for the mentally ill. A Green Care farm with an AWBZ accreditation has the formal status of a health institution. There is a great variation in the level of payment for care activities. It depends on the target group,

negotiation capacities of the farmer and level of the client. In general, the income is € 50-75 per client per day. But still, there are also Green Care farms that receive no income for the care activities.

Table 4. *Different connections of Green Care farms with health institutions and different financing structures*

	1998	2000	2001	2003	2004
Green Care farms as part of a care institution or day-activity centre	24	64	77	82	86
Green Care farms with an AWBZ accreditation	12	15	16	18	21
Green Care farms in cooperation with a care institution	14	72	145	146	145
Independent Green Care farms with compensation through PGB	12	48	45	67	103
No compensation	?	?	26	30	24
Different	?	?	13	31	15

The ministry of Health, Welfare and Sports is preparing the Social Support law. Under this law, supportive and stimulating day activities are no longer covered by the general insurance for medical costs AWBZ. Only the costs of chronic and severe disease and elderly with dementia will remain part of the AWBZ. The municipalities will be responsible for the supportive and stimulating activities on Green Care farms. When this law becomes effective, Green Care farmers have to conclude contracts with municipalities.

HEALTH-PROMOTING ASPECTS OF GREEN CARE FARMS

The general experience is that working and living on a Green Care farm is healthy for a diversity of groups (Van Schaik 1997; Hassink et al. 1999; Ketelaars et al. 2001). Green Care farmers and clients mention the necessity of activities with a high appeal. The farm provides structure, space and variation in activities. According to clients and farmers, working with animals and plants has a special quality because they are living creatures. Clients also mention that they appreciate Green Care farms because the atmosphere differs from a health institution's. A Green Care farm provides a working environment and is part of society. Clients express that they are co-workers and part of a social working community instead of a client with limitations.

Based on a review of psychological, pedagogic and rehabilitation theories, Hassink and Ketelaars (2003) conclude that health can only be stimulated under the condition that a person experiences sufficient safety, sufficient challenges and

sufficient involvement with the activities and social environment. Safety is a basic need and a starting point to become active. There is an inherent need to develop, to experience challenges and to remove boundaries. Involvement makes it worthwhile to devote one's energy to something and to experience meaning. The environment of a Green Care farm offers many possibilities for clients to experience sufficient safety as well as sufficient challenges and involvement. The presence of a farmer and the work with plants and animals are key elements in this (Hassink and Ketelaars 2003).

QUALITY SYSTEM AND HALLMARK

The National Support Centre of Green Care farms has started a process of quality security for Green Care farms. This process is supported by the majority of the Green Care farmers, the association of Green Care farmers, ministries and client organizations. A quality system for Green Care farms has been developed. A Green Care farmer that has met the standards of this quality system can be registered by the National Support Centre. In a next phase, the quality of the Green Care farm can be judged by an independent person. This reviewer checks whether the quality system is effective. A hallmark is provided after a positive review. The first hallmarks have been awarded in November 2004.

ORGANIZATIONS IN THE FIELD OF AGRICULTURE AND CARE

In The Netherlands there are lots of organizations and people involved with FH. It is not only farmers, sociotherapists and clients that are working in this field but also local government, organizations for well-being, policymakers and insurers are involved. The most important organizations and people working in the field of FH are shown in Figure 1.

Green Care farms

Individual farmers often have contacts with local organizations and less contact with national organizations. One can think of clients, their families or local agencies that are looking for a place to work or for day-activity possibilities for their clients. Farmers have most contacts with a division of the Dutch Organization for Agriculture and Horticulture where they can get support in starting a Green Care farm. Some farmers have direct contacts with care financiers. About 80 Green Care farms are members of the Association of Green Care Farmers. An unknown number are members of one of the regional groups of Green Care farmers.

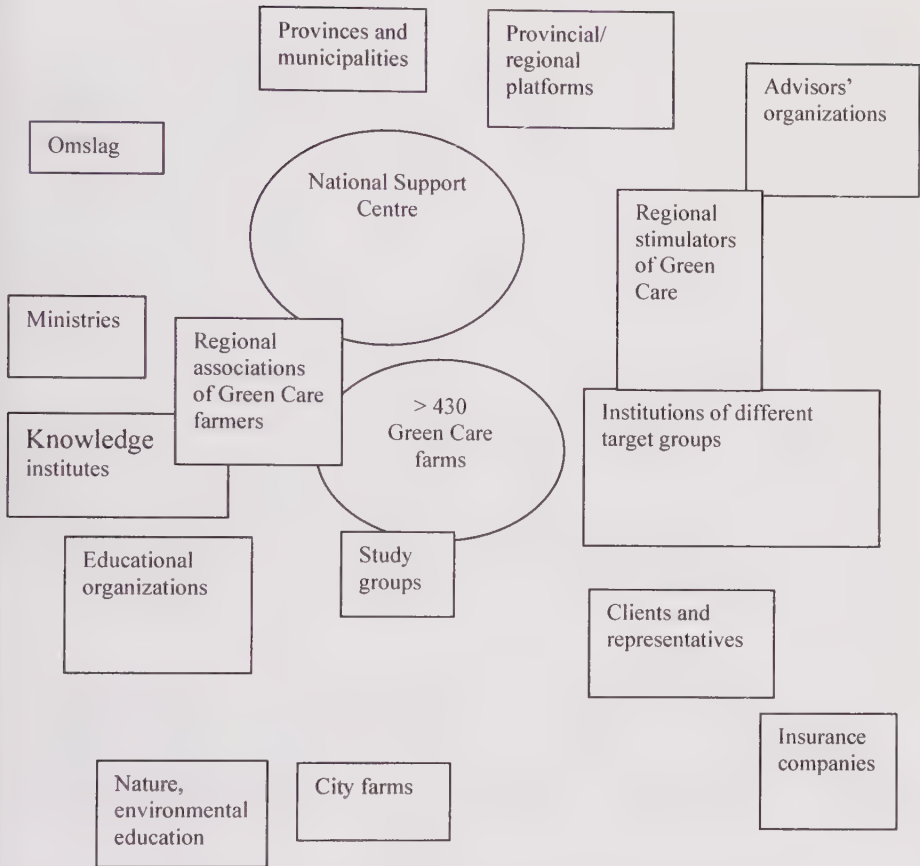


Figure 1. Organizations involved in Farming for Health

Regional groups and associations of Green Care farmers

In almost every province there are groups of Green Care farmers that organize meetings. In this way they can learn from each other. Often these groups are supported by an external advisor. Nowadays there are groups of farmers that just started a Green Care farm and groups that are more experienced.

In some regions Green Care farmers have formed regional associations of Green Care farmers. The aim of these regional associations is to match supply and demand, to introduce the quality system, to provide information about Green Care, and to negotiate with health institutions and insurance companies to get a reasonable price for the care activities.

National Support Centre

The National Support Centre is a non-profit organization that aims at all the Green Care farms in The Netherlands. Founded in 1999, the National Support Centre has existed for more than five years now and aims to stimulate, support and promote Green Care farms and initiatives on FH. The Centre gets subsidies from the ministries of Agriculture and of Welfare and Health. The Centre is a focal point for government, client organizations, clients and social workers who are looking for a place on a Green Care farm. The Centre is also the place for farmers who are considering Green Care farming. More information can be found at <http://www.landbouwzorg.nl>.

Association of Green Care Farmers

The Association of Green Care Farmers was founded in 1999 and aims to protect the interests of Green Care farmers in The Netherlands. The association has about 80 members; members need to combine farming and health on a regular farm. The association is a part of LTO (the Dutch Organization for Agriculture and Horticulture). More information can be found at <http://www.zorgboeren.nl>.

Omslag

Omslag is a foundation that promotes the encounter of agriculture, care and craft. Omslag supports socially innovative projects and is stimulating the public debate about work and recovery. Over recent years Omslag organized different conferences and initiated various research projects on FH. More information can be found at <http://www.omslag.org>.

LOCAL, REGIONAL AND NATIONAL POLICIES AFFECTING GREEN CARE FARMS

At the moment there is no national policy regarding FH, but Green Care farms fit the policy of different national departments. For instance, the policy of the ministry of Welfare and Health is to enlarge the opportunities for people who need care. There is a shift from the medical care model to the sociological care model, where the goal for quality of care is broadened to quality of life (Schols 2004). The Green Care farm is a new and additional option for different target groups that need care. The ministry of Welfare and Health also wishes care to be more embedded in society. Farms are part of society where participants have contact with people outside the medical context.

FH also fits the policy of the ministry of Agriculture, Nature and Food Quality. This ministry opts for increased contacts between society and agriculture as well as new financial opportunities for farmers. Green Care farms are good examples of such policies.

At the regional level, provinces develop general policies affecting farmers who combine farming with care – e.g., health care – and agricultural and spatial planning

policies. Most provinces also have specific stimulation policies for Green Care farming. An inventory clearly showed that not all provinces started Green Care farming policies at the same time. Also the contents and implementation of policies differ per province (Elings et al. 2003), resulting in more advanced health-care policies in some provinces than in others.

POLICY DEVELOPMENT

Initially, regional policies are in particular directed towards increasing the number of Green Care farms by subsidizing investments in canteens, sanitary facilities or adaptations to the farm. Often provinces also supported a Point of Support for farmers. After this stage, provinces concentrate more on quality than on the number of Green Care farms. This means that the sector needs professionalization, for instance by working with the quality system for Green Care farms developed by the National Support Centre. In this case provinces make it possible for farmers to get coaching to obtain this quality certificate.

Currently, most provinces are in the stage of pushing the sector towards emancipation and self-support. Yet, provinces do not know precisely how to realize this. They recognize that continued structural financing of the sector is not possible but also that it is at the moment too early to stop subsidies. In some provinces regional associations of Green Care farmers are being set up.

The current general trend in policy is decentralization. This means that in the future more policies will move from provinces to municipalities. The WMO (the law on social support) is one example with consequences for Green Care farmers. Another trend is the reduction of collective costs and the increase of market mechanisms and personal responsibility in health care (Schols 2004).

CITY FARMS

Over the last 50 years The Netherlands has changed into a very urbanized country. Today, 90% of the Dutch population lives in towns and cities. The pressure for economic progress in the past and the overcrowding of the cities left no place for nature as people had known before. During the 1970s, the first city farms were started, mainly because concerned parents and teachers wanted to provide children with a healthy and stimulating place to play and learn about their environment.

Nowadays, the 350 city farms in The Netherlands, ranging from small fields to large complexes, have up to 15 million visitors a year. The farms bring visitors into contact with animals, plants, their environment and each other. Recently, scientists from Wageningen University and Research Centre (Wageningen UR) interviewed visitors in Rotterdam about their reasons for visiting the farms. People like the city farm because it is a safe place, free to visit, often in the neighbourhood, and attractive to everybody. Elderly people like to watch the children play and to get their exercise. It is a safe working place for people with psychiatric problems or a mental or physical disability. Dutch and foreign citizens integrate and meet. For visitors, especially for children, it is also a place where they can learn about

sustainable development, agriculture, food chains and their own place in the natural system (Bosman and Vos 2004). City farms wish their visitors to experience that there is a close bond between people, animals and the wider environment: "We are part of the earth and the earth is part of us" (<http://www.cityfarms.org>).

In The Netherlands, 25% of the city farms belong to a health institute. Most city farms are paid by the local government. Many farms struggle with a lack of money and bureaucracy due to agricultural legislation. But there are also many opportunities. City farms change more and more from a 'playground for children' into multifunctional green centres for the whole city population. There is a slow move from an incrowd organizational structure into an outward-looking professional sector. Cooperation with green (care) projects in and outside the cities is necessary for a healthy future of the Dutch city farm.

HEALING GARDENS AND HORTICULTURAL THERAPY

Horticultural therapy has been a specialism in The Netherlands since the early 1970s. It is a specialization of creative therapy. Horticultural therapy has never become a major trend in creative therapy in The Netherlands. At the moment horticultural therapy is no longer a specific study direction. Courses in horticultural therapy can still be followed at Utrecht Polytechnic. Horticultural therapists are working in health institutions with different clients, mainly people with psychiatric problems, children, people with mental disabilities and elderly people. The main difference between horticultural therapy and Green Care farms is that horticultural therapy uses plants as a therapeutic medium. Its aim is to reach therapeutic goals; agricultural production is not important. On a Green Care farm, working with plants is a commercial activity. Crop quality and quantity are important; clients take part in the production process.

Healing gardens are specifically designed to stimulate senses, to experience rest and beauty, and to activate people. They are usually part of a hospital or a health institution. There are only a few healing gardens The Netherlands and they are not very well known. The target groups are elderly people with Alzheimer, people with visual handicaps, children with mental of psychiatric problems and people with burn-out.

NATURE AND HEALTH

There is a growing interest in the effects of a green environment and nature on the social, psychic and physical well-being of people. Green Care farms, city farms, healing gardens and horticultural therapy are regarded as practical examples of the relationships between nature and health. Nature policy recognizes the increasing demand for 'nature for people', particularly in and around towns and cities. Recently, the Health Council of The Netherlands and the Dutch Advisory Council for Research on Spatial Planning, Nature and the Environment (RMNO) analysed all scientific knowledge on the beneficial influence of nature on health and well-being (Gezondheidsraad 2004). It was concluded that there is a limited amount of direct

evidence. A connection between health and nature can, however, be established indirectly by looking how nature influences actions or mechanisms which in turn influence health. The Health Council and RMNO identified five mechanisms: 1) recovery from stress and attention fatigue, 2) encouragement of exercise, 3) facilitation of social contact, 4) stimulation of development in children, and 5) stimulation of personal development and a sense of purpose. These mechanisms can occur in work settings (e.g. Green Care farms), recreational settings (e.g. community gardens) and therapeutic settings (e.g. horticultural therapy).

The programme 'Agriculture and Nature for a Healthy Society' of the National Initiative of Sustainable Development linked green spaces in the city, such as community and allotment gardens and city farms, with green spaces around the city such as Green Care farms and nature areas where volunteers and different client groups can perform activities. The aim was to underpin the relevance of activities in these green areas for the well-being of urban residents (Hassink and Ketelaars 2003). It was concluded that the mechanisms indicated by the Health Council and RMNO occurred at all green areas where people are working together (Kieft and Hassink 2004; Hassink and Oomen 2004). Organizations of Green Care farms, city farms, nature, community and allotment gardens have recognized that they are all part of the emerging movement of 'nature and health'. They agreed to continue their collaboration.

RESEARCH

Several research projects focusing on the relationships between nature and health and on the significance and development of Green Care farms were started in the last decade. The most active researchers in this field have decided to combine their efforts in a centre of expertise 'Agriculture, Nature and Health'. Researchers from Wageningen UR collaborate with researchers from the Trimbos Institute (Netherlands Institute of Mental Health and Addiction), Louis Bolk Institute (Institute for Biological Agriculture, Food and Health) and the universities of Utrecht (psychology) and Tilburg (chronic care).

A new development is the transformation of a classic research farm of Wageningen UR into a Green Care farm, which will be the national centre of research and practice on Green Care (<http://www.dehogeborn.nl>). It is a collaboration between Wageningen UR and two health institutions. In previous years, several research reports on Green Care have been published, of which the most relevant are summarized below.

Research on therapeutic communities for people with psychiatric problems (Ketelaars et al. 2001)

This research was initiated by Omslag and describes the working methods of three anthroposophical therapeutic communities with farm activities. Clients experience different ways of recovery. They experience physical and mental rest; they develop new skills especially in psychic and social emotional functioning, and they learn

how to cope with their vulnerable sides. Clients experience a real change, feel more authentic and have more contact with their own feelings.

The value of farm animals for clients on a Green Care or a city farm

Hassink (2002) and Van Dijk and Hassink (2002) interviewed Green Care farmers to explore the value of farm animals for the development of clients with a mental or psychiatric disability. This study showed that animals have a strong appeal to clients. They can provide safety (they can offer warmth, they have no hidden agenda) and appeal to caring; they can offer challenges (they can be huge and can do unexpected things), it is easy to get a bond with them (they behave like human beings) and make elements of life visible (birth and death, order in the group). It became also clear that cows, goats, chickens, pigs and horses have very different characteristics. A cow is a large, calm and warm animal; a goat is smaller, less predictable; a pig is a cheerful, roguish animal, focussed on food; a horse is a large versatile animal that can form a close bond with a client and a chicken is part of a group and keeps distance to the clients.

Agriculture unites! Agriculture an answer for trouble? (Cool 2002)

This study is an evaluation of a three-year project of clients with an addiction history on Green Care farms. This study showed that a Green Care farm can be a healthy working environment for this target group. The physical work on the farm brings clients back to themselves, they feel their own body and get into contact with their direct environment. The clients learn to work with other participants and produce a quality product that will be used by others. It was observed that working with animals can be helpful to learn to build up relationships with other persons.

The value of a farm with real agricultural production

In this study, Elings (2004) looked at the specific value of working on a Green Care farm with true agricultural production in comparison with working on a Green Care farm that produces agricultural products more or less as a hobby or for the mentally challenged participants on the farm. This study shows that the presence of a farmer is very important for the participants. The farmer is a role model; he is the boss, he is not a therapist or social worker. The farmer is the expert in farming and has a strong bond with his farm, which gives participants safety and clarity. They can always count on the knowledge and expertise of the farmer. A farmer is also an entrepreneur; this attitude is helpful in finding creative adaptations in the work process for the participants. The farmer makes the participant use the farming environment as a challenge for development.

Knowledge about farming and agriculture seems to be an important condition in supporting participants on the farm. Social workers on farms without real agricultural production often do not have this knowledge. These social workers could follow agricultural training. Based on the results of this study care institutions

are recommended not to build their own social care farm but to cooperate with existing farmers.

Future research

In 2005 three long-term research projects will be started to determine the effects of Green Care farms for elderly people, people with burn-out or with psychiatric disabilities and clients with an addiction history. In addition, the specific role of farm animals and plants will be investigated.

The effect of allotment gardens and green spaces in the living area on the well-being of urban inhabitants will be determined in another project.

EDUCATION

The fast growth of Green Care farms in The Netherlands was supported by different courses for farmers in the late 1990s. The Expertise Centre for Agriculture and Care in Dronten has developed a curriculum that was approved by the government. In September 2004 the first education course for Green Care farm managers started.

Clients of Green Care farms were also found to have educational demands. The first professional education for clients of Green Care farms started in Dronten in September 2004. The enthusiasm of the pupils is great. In addition to these education programmes, a module 'agriculture and care' was developed as part of the rural-development study.

CHALLENGES FOR FARMING FOR HEALTH IN THE NETHERLANDS

Although the number of Green Care farms has increased rapidly over the last decade and the positive effect of nature on health is generally accepted, FH in The Netherlands faces many challenges. The main challenges are to:

- bridge the gap between rural and urban areas;
- extend networks of FH;
- develop sustainable financing structures for FH;
- develop scientific evidence for the positive effects of Green Care farms and nature on health and well-being, and determine the health-promoting aspects for different target groups;
- use farms and nature not only curatively, but also for prevention;
- develop new systems that combine agriculture, care, recreation and education.

The general expectation is that the number of Green Care farms will increase. Most Green Care farms are located in the rural parts of the country. The new target groups that may benefit from the green environment, such as clients with an addiction, long-term unemployed and people with burn-out are concentrated in urban areas. The challenge is to build links between those urban clients and farmers around the cities. It is clear that for many urban clients the distance to farm life is much larger than for clients from the countryside. This means that more effort will be needed to bridge the gap.

Another challenge is to connect the green spaces in urban areas (city farms, community and allotment gardens) and the green areas around cities (Green Care farms and nature areas) where clients can find a suitable day activity or place to live. The first experiences of different target groups working in community gardens and on city farms are positive. These urban farming-for-health locations can be a first step for urban clients to discover the Green Care farms around the city.

In the near future, the sector needs to prove the effect that working on a farm or in nature has on different kinds of people. Some farmers think that there is enough practical information to prove the effect but it is generally accepted now that more scientific evidence is essential. This is crucial to become a generally accepted provision in health care and to develop sustainable financing structures. Evaluations and research on the satisfaction of clients could give more inside information about the significance of different elements of working on the farm for clients and their quality of life.

The development of FH is part of a greater development of renewing the countryside and keeping cities healthy. Within this framework, the countryside will move from a production function towards a more recreational function. Combinations of regional food production, care, nature and landscape conservation, recreation and education can be building stones of new sustainable farming systems. A specific point of concern is the preservation of the specific quality of a real farm as this is important for the development of clients. In the cities the challenge is to combine different functions in the scarce green areas. Combining education, recreation and care, and increased commitment of the neighbourhood and businesses can help to strengthen the green areas in the urban environment.

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CHAPTER 14

FARMING FOR HEALTH - THE SITUATION IN FLANDERS

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Abstract. In Flanders approximately 140 Green Care farms have sprung up spontaneously. They are mostly independent agricultural or horticultural farms that receive a limited number of people on a small scale. Institutional farms work on a larger scale. In comparison with our neighbouring countries, Flanders scores very well on the diversity of the target groups. Considering the great interest from both the care sector and the agricultural and horticultural sector, there are plenty of opportunities for growth as well. Unfortunately, at this time there is no solid legal framework yet, so Green Care in Flanders draws its strength mainly from volunteer work. The Support Centre Green Care wants to elaborate on this, in close consultation and together with all the partners involved.

Keywords: green care; support centre; hippotherapy; examples

INTRODUCTION

Combining agriculture and care is an idea that is catching on in Flanders (the Dutch-speaking part of Belgium), in the agricultural and the horticultural sector as well as in the care sector. For the farming sector, it is in line with the spirit of the time to consider innovations and to play along with new demands of the market and of society. For the care sector it fits in an evolving vision on care: total care, care made to measure and a natural setting or domestic environment are brought to the fore as important anchoring principles.

In Flanders, combinations of agriculture and care are grouped under the heading of 'Green Care'.

Green Care = every possible combination of a green environment with the care for a wide range of vulnerable groups in society

HISTORY AND DEVELOPMENT OF GREEN CARE

Green Care is not new; in fact it has existed for a very long time. Within psychiatrics we find the oldest examples. In the Kempen village of Geel, a place of pilgrimage for people with psychiatric problems, patients have been taken in by host families

ever since the fifteenth century. Other care facilities, such as the University Psychiatric Centre Sint-Kamillus in Bierbeek, started their own farm in the 1930s in order to be able to grow their own vegetables and fruit and to produce their own meat.

Here and there similar initiatives have cropped up during the last few decennia, mostly for people with a mental handicap and for the young. The last few years there has been a significant increase in the number of initiatives where there is a cooperation between care facilities and active agricultural and horticultural farms.

What is so special about Green Care? All the participants find surplus values that bring about their own benefits and strengthen each other as well. In this way the total added value is larger than the sum of the surplus values for the separate groups of interested parties.

The clients, Green-Care users

Since the target groups can be so diverse, we cannot simply speak of 'demanders of care'. As a matter of fact, not every user or demander actually needs 'care'. Therefore we call them Green Care users, a general term.

The experience in practice is that the surplus value for Green Care users lies in the area of extra quality dimensions, such as:

- Green Care usually takes place **outside the walls of the care institution** and therefore in a totally different context. Farms are often still real family enterprises, run by husband and wife, not by directors, psychologists or educators. These farms are often visited by buyers, suppliers, vets etc. In this way the clients become more integrated in the 'normal' society.
- As the number of clients in Green Care initiatives is very limited, the care is often offered 'to measure'. This gives the clients a feeling of **personal approach** and they can be dealt with in an informal manner. The environment in which the care is offered, is much more homelike and familiar as well.
- Participating in the work of a farm by definition implies that the clients are **actively involved**. The activities often need to take place as a rule and are therefore meaningful and task-oriented. An appeal is made to the potential of the clients and they often feel themselves evolve. The result of participating in a day like that usually brings with it a feeling of being 'healthily tired'.

Naturally the listed advantages are not part of an all-inn quality basket that will be applicable for everybody at all times. For demential elderly persons, for example, the surplus value of relief on a care farm will lie more in the opportunities for resting, staying in a restful environment and in some cases the link with their agrarian past. For troubled youngsters, the surplus value lies more in the domain of a growing self-confidence, learning to enter into relationships and taking on responsibilities.

The Green Care provisions

Green Care workers can be individual carers such as professional domiciliary nurses and family volunteer carers. But they can also be a variety of intra- and extra-mural institutions such as rest homes, psychiatric institutions, day-care centres, home-care services etc.

The most obvious advantages found in practice ensue from the **healing aspect of working with nature**. Working in a vegetable garden, taking care of animals, being cared for outside the walls of the traditional institution, boosts the sense of well-being of the clients. This factor increases the quality of the assistance and – in this way – is a welcome bonus for the care institution and the care providers.

Here too, the surplus value is to be found in an important underlying value, namely the **socialization of care**. Important developments may be noted in the vision of care. Socialization of care fits within the view that people with a handicap, sick people, people who have gone off the rails and so on must be able to participate fully in society.

The first step in a renewed care policy has thus far been **going 'extra muros'**: the necessity of social participation has led to shifts within the care institutions: from large- to small-scale living and care facilities, supervised independent living, day-activities centres, more home care...

Blown over from The Netherlands in the 1980s, this was also preached in Flanders in the 1990s, where quality of living for clients was considered to be of paramount importance.

Socialization is in fact much more than going *extra muros*. To 'empower' these vulnerable people as much as possible into **fully-fledged citizens**, care institutions must be supported by 'ordinary' civilian initiatives. Only if employers, educational institutions, distributors of social benefits, building societies and the authorities, as well as farmers support this climate, there will be a real connection and – consequently – a socialization of care.

The Green Care farms

At this moment, Green Care has a social surplus value particularly for the farmers and farmers' wives:

- Next to the mere production of crops or raising animals, agriculture is given a new social task, and consequently a broader base. This creates a larger **social surplus value** for the farms that provide Green Care. Apart from economics and ecology, a third sustainability aspect is put into practice in this way.
- There is a **natural bond between the social sector and the green sector**: taking care of people is directly related to taking care of animals and plants. As a matter of fact, it is not a coincidence that quite a lot of women farmers and horticulturists have a degree in some social science. On the agricultural and horticultural farms where Green Care is provided at this moment, both husband and wife can to a large extent use earlier relevant experiences or even degrees in the social sector.

- After all, farmers have – by their very nature – a number of personality traits that make them potentially good care providers: a healthy horse sense, down to earth, sober, simple, fixed daily routines, respect for nature and its creatures...
- Green Care brings farmer and citizen closely together again. **New social networks** will spring up for the farmer(’s wife) across sector boundaries.
- Green Care can contribute valuably to creating a positive **image** of agriculture: from ‘polluter’ to ‘healer’.

Moreover, Green Care could provide an **economic surplus value**. Within the framework of renovation of the countryside, diversification of agriculture and horticulture continuously comes up. Green Care could be an example of this. It can provide an extra income, which leads to spreading of risks and decreases dependence. At this moment, this is not yet possible because remunerations are almost inexistent.

CURRENT SITUATION OF GREEN CARE

What is Green Care?

Green Care can be found in varied and combined forms: day spending, relief during the day or 24 hours a day, employment as reintegration or labour care, as well as therapy in the shape of relaxation, development of the personality or learning social skills. It may involve short-term or long-term stay, in a narrow or loose cooperation with the care institution. Most often they are small-scale initiatives in which a limited number of clients are cared for.

For whom?

A broad range of vulnerable groups qualifies for Green Care:

- people with a mental and/or physical handicap
- people with psychiatric problems
- young people from youth-welfare work
- children
- (former) addicts, (former) inmates
- (demential) elderly persons
- people with depression or burn out
- underprivileged persons, the long-term unemployed
- homeless people.

At this moment the largest number of initiatives is aimed at young people, persons with a mental handicap and persons with psychiatric problems. To a lesser degree the (long-term) unemployed, elderly people, (former) addicts and children are involved.

Possible models

As far as the approach is concerned, in Flanders three main models are distinguished (Table 1):

- *Model 1: cooperative model, individual clients*

Via a care institution, care demanders are received on an active agricultural or horticultural farm. Here the care demander is involved in the daily work on the farm as much as possible. The farm provides care 'to measure'. The care institution is responsible for follow-up. Most often the care institution works with one farm; some institutions are developing a network of care farms that they can call upon. In a number of cases there is cooperation with animal shelters, riding schools, nature reserves...

- *Model 2: cooperative model, groups*

Active agricultural or horticultural farms put their infrastructure at the disposal of a care institution, but they themselves have to spend no or little time on reception. Supervisors from the care institution are responsible for the care of the care demanders. Here too, there can be cooperation with e.g. animal shelters, riding schools, nature reserves...

- *Model 3: institutional farm*

The care farm is started within or is part of a care institution. Here we talk of an institutional farm. In Flanders they are often sheltered workplaces, labour care centres, day-care centres or other partial services within the care institutions.

Table 1. Main models of Green Care farms

Possible models	Number of farms
1. Cooperation, individuals	91
2. Cooperation, groups	12
3. Institutional farm	39

Combinations of these models may be found as well. They may be, for instance, a care institution that has its own institutional farm but also cooperates with an active agricultural farm. There are approximately 140 Green Care farms in Flanders. This is 0.4 % of the total amount of agricultural or horticultural farms. Most of them belong to model 1.

ORGANIZATION OF THE GREEN CARE SECTOR

Recently a few umbrella organizations that are concerned with Green Care have sprung up in Flanders.

Support Centre for Green Care

In 2003 a study was conducted that examined the viability of a Support Centre for Green Care initiatives. In the care sector as well as in the agricultural sector

enquiries were made about the surplus value and the bottlenecks of Green Care. The possible tasks for a Support Centre were put to the question as well.

The Flemish Support Centre for Green Care has officially existed since January 2004. Its primary goal is promoting Green Care in Flanders. It is certain to exist until 2006.

Care organizations, active care farms and interested farmers/horticulturists can contact the Support Centre for:

- all information on Green Care: visits, website, newsletter, training and extension
- contacts with interested care organizations and interested agricultural or horticultural farms
- support at start up of cooperation between care organizations and farms
- meeting active Green Care initiatives: information and demonstration days, study visits, consultation platforms, study groups, working groups.

Behind the scenes, the Centre also works/cooperates at:

- promotion of the Green Care concept
- appropriate conditions for Green Care
- preparation of policies, consulting public authorities
- extending national and international contacts
- research projects
- some form of quality system for Green Care initiatives.

Regional partners

The pilot project 'Green Care East Flanders' exists in the province of East Flanders. It is a Flemish organization that supports Green Care at a regional level. In its province it actively looks for interested agricultural or horticultural farms and care institutions, and brings the most suitable partners into contact with each other. It offers support in making arrangements and creates moments for encounters to exchange experiences.

FINANCING STRUCTURES

As far as the financing of Green Care is concerned, a distinction must be made between the different models:

- cooperative farm: the remuneration that the farm receives for the reception is determined in consultation with the care institution. Approximately half of the agricultural or horticultural farms receive from the care institution a limited allowance for expenses. Usually it is insufficient as a compensation for the time that is spent on receiving care demanders.
- institutional farm: for these projects usually existing channels of financing within the social sector can be called upon, since the projects have always sprung from or are directly linked to an existing care institution or sheltered workplace.

At this moment, the different Green Care initiatives have to be extremely creative when they look for possible sources of financing. The staff of the care institution concerned often has to be deployed in a flexible way to make the

supervision possible. The existing legislation is indeed not adapted to these experimental combinations of agriculture and care.

For Green Care initiatives that work according to the cooperative model, there is light at the end of the tunnel since the Agricultural and Horticultural Administration (Ministry of the Flemish Community) is currently working out a system of remuneration. Independent agricultural and horticultural farms that cooperate with a recognized care institution, will be able to get a remuneration for the reception of care demanders. This system should be effective from the beginning of 2005. The remuneration is paid by the Ministry of Agriculture. This is part of the policy of this ministry to stimulate additional agricultural activities such as nature conservation and Green Care.

POLICIES CONCERNING GREEN CARE

Status of care demander and care farm

The status of the care demander has not yet been unambiguously defined. Green Care has no separate status. It is classified as much as possible within existing systems. The most suitable system depends mainly on the target group:

- young people: learning–working combination, pedagogical measure, foster care
- psychiatrics: volunteer work, foster care
- persons with a handicap: supervised labour, labour care
- the elderly: day care
- children: (after-school) child care.

But at the moment these systems do not provide a watertight guarantee for the legal security of the care demanders. They, for instance, run the risk of losing their social-security benefits when they work on an agricultural farm.

There is also a lack of clarity concerning the status of the care farm. Since it is not a question of employment, the agriculturist or horticulturist is not an employer. The perception of his involvement is usually more like a kind of volunteer work. In the future it must be considered whether a new status has to be developed or whether the existing systems such as day-care mothers or foster parents can be copied.

This lack of clarity concerning the varying status is causing most problems in the cooperative model. For institutional farms the problem does not arise.

Labour inspection

The lack of clarity concerning the status has also manifested itself in problems with checks from the labour inspectorate. The presence of care demanders on a farm was regarded as moonlighting, which resulted in some summonses. In talks with the labour inspectorate this was put to the table and a solution was found. The labour inspectorate accepts Green Care when a number of factors is taken into account. The main limiting conditions are:

- drawing up a model agreement between care farm, client and care institution
- copy of the agreement handed to the local labour inspectorate
- copy of all agreements to be kept by the Support Centre Green Care.

This working method will be evaluated annually in an evaluation conference of the Support Centre Green Care and the labour inspectorate.

Problems with labour inspection are mainly encountered in the cooperative model.

RESEARCH AND EDUCATIONAL ACTIVITIES

These last few years, several organizations have conducted training sessions that deal with Green Care:

- *training course agriculture and social care*

This is a one-year occupational training course that enters into the different steps to be taken if you want to start a care farm. The training was first organized in 2004 and is aimed at farmers as well as social workers. The different possibilities and the steps to be taken are discussed. Attention is also paid to legislation, possible forms of organization, possibilities for financing, insurance, quality care.

Organization: Landwijzer vzw, tel. +32 3 287 37 77

- *training course hippotherapy*

This training course is meant for care givers who want to use horses therapeutically. It goes deeper into the holistic vision, knowledge of the horse and possible target groups and objectives. The course was first organized in 2003.

Organization: Arteveldehogeschool, Godi De Vos, tel. +32 9 269 91 17, godi.devos@arteveldehs.be

- *training course therapeutic work with assistance animals*

This course is aimed at care givers who want to include animals in their counselling of children and young people. Care farmers (or care farmers' wives) are welcome as well. The course starts for the first time in the autumn of 2004.

Organization: vzw 't Keerhof, Katrien Kintaert, tel. +32 9 238 15 58, keerhof.16@telenet.be

At this point in time, there is no research into Green Care in Flanders.

DESCRIPTION OF INTERESTING INITIATIVES

Foster family care in psychiatrics

Psychiatric family care has existed in Geel for centuries. It has its roots in the mediaeval pilgrimages to the place of pilgrimage of Saint Dimpna. Yet it has never been more topical. In modern mental health care there is an increasing striving for nursing in society at large, as a human alternative for a lengthy stay in a hospital. In hospitals, indeed, the emphasis is on what the patient is **unable** to do, in family life it is on what he or she is **able** to do. Family affection is central.

Today, some 500 patients are still staying with families in Geel. Most patients are referred from psychiatric hospitals all over Flanders. Some come from Wallonia

and even from abroad. The average length of stay is more than twenty years. In the past, patients were often involved in the farms in Geel, where extra manpower was always welcome. These times have gone. Still, there are currently some 25 foster families with an active agricultural or horticultural farm.

A few years ago, the Psychiatric Hospital Geel started a labour care project. Here too the emphasis of the type of 'job' is on what the patient is able to do, on where his interests lie. This starting point makes it easier for the patient to try to develop his capacities, to learn new things. But it is primarily meant to be an enrichment for the self-esteem, the self-image of the patient. At this moment some 11 patients are 'employed' like this in local enterprises, among them a horticultural farm.

Hoogveld Farm, Tongeren

Hoogveld is a farm in Koninksem, a borough of the town of Tongeren. This is by no means an ordinary farm because some eight mentally handicapped persons live there and they run the farm. It is their farm and they feel responsible for it. On a daily basis they themselves decide the ins and outs of the farm. Guy Goffin keeps an eye on things as a farmer and an educator. For the moment Guy is living in a house next to the Hoogveld and he goes to work on the farm every day.

Apart from Guy, some more educators are active in the household. None of them sleeps in, the guests have to rely on themselves. There is however a warning system: with the push of a button one of the educators can be called in. Moreover, the educators draw up a schedule for the guests. As the guests cannot read or write themselves, the practical arrangements are dealt with via Guy. It is also not really viable to expect the guests to react independently to new situations, so supervision of the work is constantly needed.

The farm is a mixed farm with cows, pigs, chicken, rabbits, mangold and pastures. The farm supports itself; the proceeds go in full to the purchase of fodder or to the vet. As much as possible Guy involves the guests in management as well: the evolution of market prices, a visit to Agribex, the agricultural fair. That is all part of it.

This way of supervised living and working offers enormous advantages for the guests. They are happy there and they enjoy some freedom. Moreover, they have opportunities for spending their days meaningfully. According to Guy this approach is even cheaper for society than mere institutionalization.

Youth care on the farm

The non-profit organization Oranjehuis provides reception and supervision for young people in special youth care between twelve and eighteen years old. Ten years ago they started cooperating with farmers and horticulturists in their region. They found that some youngsters had to be removed from their community for a little while to prevent the tensions from rising too high. Some of these young persons could no longer function in the group and there was no ready-made solution for such crisis situations. This is why they contacted a horticulturist who didn't mind

receiving one of these boys on his farm. It turned out to be a good experience for both parties. Gradually they established a whole network of some ten agricultural and horticultural farms that they can call upon for their youngsters in crisis situations.

Most young people experience work on the farm as a punishment. They are removed from their community to go and work in a place where they don't know anyone. Once they are on the farm, they usually settle down quickly.

A new rural home for demential elderly persons on the farm

For people who have always lived in an agrarian environment, it is not self-evident that they will call upon assistance and services of classic care when they become infirm. The step from the green, wide countryside to a rest home, in a little room between four walls, is too big for many elderly country people. The infirm person finds himself in an environment that can scarcely be compared to the familiar rural surroundings in which the elderly feel at home.

That is why 'Landelijke Thuiszorg' (Rural Home Care) is developing a network of farms where demential elderly persons can be received and where they will be able to spend their days in a way that is suitably oriented towards country living, contact with animals and plants and the course of the seasons.

FUTURE CHALLENGES AND KNOWLEDGE QUESTIONS FOR GREEN CARE IN FLANDERS

Future challenges

- Professionalization: recognition of Green Care as a fully fledged care form, this means an appropriate remuneration and a decent and accepted status for the different parties involved.
- Getting the different administrations to cooperate, to break through parochialism.

Knowledge questions

- The level of necessary education for care farmers. What are the minimal requirements? How do you prevent farmers to become social workers?
- Scientific underpinning of the empirically shown effect of Green Care.

RELEVANT ORGANIZATIONS AND PERSONS

Flemish Government

- Administratie Land- en Tuinbouw: Leuvenseplein 4, 1000 Brussel
Contact person: Ilse Maes, tel. +32 3 224 63 87
Koen Wellemans, tel. +32 16/21 12 95 (ad interim)

- Vlaams Fonds voor Sociale Integratie van Personen met een Handicap: Sterrekundelaan 30, 1210 Brussel (Sint-Joost-ten-Node)
Contact person: Luc Dewilde, tel. +32 2 225 86 68

Umbrella organizations in welfare and health

- Vlaams Welzijnsverbond, Guimardstraat 1, 1040 Brussel, tel. +32 2 511 44 70, post@vlaamswelzijnsverbond.be
Contact persons: Diane Serneels (care for people with handicap)
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CHAPTER 15

FARMING FOR HEALTH: ASPECTS FROM GERMANY

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Abstract. Until now, the term 'Farming for Health' is unknown in Germany but it would cover a wide spectrum of different kinds of social agriculture already existing in Germany, such as farms that integrate disabled people or drug therapy into their farming system, or farms that integrate children, pupils or older people. Relevant work in Germany is done in 'Sheltered Workshops', where supporting and healing powers of farming and gardening are used for disabled people with a diversity of work possibilities. Relevant activities also take place in work-therapy departments using horticultural therapy and in animal-assisted therapy. There are an estimated number of 1000 different projects for mentally ill, disabled and elderly people in hospitals, Sheltered Workshops, on farms and other projects in Germany with a multitude of individual work places.

The upcoming idea of Farming for Health may be met by the term 'multifunctionality' as one of the future goals of agriculture: to combine the production of cash crops with social functions, like providing space for recreation, care for landscapes and care for disabled people. Research showed that farms that work together with clients in their farming system have more time and financial support to integrate aims like caring for biotopes and landscape measures into their work schedule.

Keywords: horticultural therapy; healing power; recovery; sense of self; animal-assisted therapy; sheltered workshops; homeless people; work colonies; landscape development

INTRODUCTION

In the scientific community there is no faculty in Germany which focuses on people-plant relationships like horticultural therapy in the US or on Farming for Health (FH). Research is done in biotechnology and in environmental science. The idea of connecting 'nature-garden-plant and people' in horticulture and agriculture is pursued in Germany by different groups – planned at the level of Universities of Applied Science and practiced in the shape of projects which differ greatly in their intention.

There are some projects that integrate disabled people or drug therapy into their farming system, or farms that integrate children or pupils or older people. Much more relevant practice in Germany is gained in different projects. Konrad Neuberger and Ingrid Stephan deal with two aspects of FH: plants and animals as companions,

mediators and therapeutic assistants. Robert Hermanowski gives a general view on Sheltered Workshops, where farming as a supporting and healing power is used with a diversity of work possibilities for some thousand disabled people. As examples two farms are described, one for mentally handicapped people and one for homeless people.

Due to the history of the German health system and the laws for the support of disabled people, there is little connection between the several existing health and support systems. They all have in common that these projects see their responsibility more or less equally on land, plants, animals and on people who are less favoured by worldly goods.

WORKING WITH PLANTS: HORTICULTURAL THERAPY IN GERMANY

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Origins of horticultural therapy in Germany

In Germany horticultural activities for the treatment of the mentally handicapped still play an important role. Gardening for health was started to be used systematically with the emerging idea around 1800, that 'insane' people could be healed at all. Johann Christian Reil, the leading reformer in Prussia, emphasized: "The appropriate asylum must have agriculture, cattle-breeding and horticulture" (Halle 1803).

Dr. Maximilian Jacobi (Neuberger 2004), the first physician supervising a hospital for the 'insane' in Germany (1825), used garden work intensively for curing the 'insane'. Between 1854 and 1883 there was a broad discussion in psychiatric journals on the pros and cons of farm work as a treatment of the mentally handicapped¹: So-called 'Agricultural Colonies' were founded all over Germany between 1850 and 1900, combining horticulture and agriculture with healing and caring for mentally handicapped people. The healing power of working the land, of sowing, planting, caring and harvesting had still to be examined.

Horticultural therapy in Germany today

After a decrease between 1930 and 1945, and in the 1960s and 1970s, a renaissance of horticultural therapy began in the 1980s. Work therapy in general and horticultural (work) therapy especially gained more relevance. It appeared that different methods, including psychopharmaca and psychotherapy, were not able to yield sufficient results in improving or healing psychiatric patients. It became apparent that even increased industrial work therapy, which by then was being developed, could not solve the motivational problems of many patients (Neuberger in press).

Horticultural therapy with a different, more patient-focused view has been developed because: "Horticultural work therapy offers far more differentiated and graded work offerings than industrial work therapy. The evident requirements of horticultural activities influence motivational disorders positively. With social disorders, plants (and may be animals) become mediators towards the environment" (Leclerc-Springer 1994). More still, plants can be seen as subjects, subjects in a world that we share – a sight that has great relevance towards sensible relations with natural surroundings.

Some therapeutic aspects of horticultural activities

Gardening helps with physical and mental recovery by using a whole range of body movements. While gardening, people increase their flexibility and integrate different parts of the body. They may feel renewed strength and sensitivity. They usually become stronger, more adaptive to different work and weather conditions. Their sense of self, of being sensitive and sensible, their self-confidence is being confirmed when they see how their efforts help small plants to become bigger and more beautiful.

A depressed man of a fragile posture, aged 36, came to the garden and asked for the easiest work because of his sore back. His physician had forbidden him to handle more than 10 pounds. We looked for easy work like pricking seedlings, but we also asked him to try different tasks to exercise his body. After some time he accepted tasks that he had previously refused. By the end of his stay, he could function almost normally and even use a spade for some time. Experiencing physical strength and flexibility in his back, he could let go partly his depressive feelings and look more optimistic into the future (see Paetz 1893? Neuberger 2004).

The trigger point of horticulture for humans is that plants are living beings, companions on the way through life. They provide food and material for shelter. Plants give it freely. A sense of relation and responsibility can be built. The environment becomes fraught with meaning. This is especially important for addicted people, the homeless, for children, for people in crises and grieving people.

One can see how people are caring when one watches them plant flowers for the first time: after digging a hole they plant them, shovel soil to their stems and then slap the soil with their hands repeatedly, like saying: now you are there, now you are there!

Gardens are places where people experience their strength, their aggressive potential and where there is a place to transform it into meaningful work. Gardens are places to live out destructive attitudes, without harming other people. With a loving eye, this may also be changed and integrated as something living inside us all: making use of our aggressive potential. In a garden every structure may be reduced to small pieces, may it be soil or plants or compost.

A lot of power builds up, when someone works her "No", his "I don't like you" or her "You too" with a spade into the visible remains of lettuce, cabbage or zucchini, and cuts them to pieces. Clients who usually need a lot of pauses may

develop more strength and endurance than ever. People calm down. They feel content, like after a good meal.

How may a female client with an eating disorder profit from working the garden? First, she herself felt dispelled from garden work, then attracted by the weeds and the open space of the garden.

She is 28, broke up twice her educational goals, stopped several hospital stays and was about to be discharged from the rehabilitation unit because she went below her weight limit. We were harvesting leeks and my question to her was: "How may garden work help resolve your (eating) problems?" She could not give an answer to this question, but now, after I started talking to her openly about something that she would dismiss, she could talk with more emotional strength. Before, she had taken a lot of time to come to an answer.

I guess that she will use this question to find a solution for her problems and I know that garden work may help stabilizing one's body feelings, getting more appetite, simplifying one's ways of thinking, distract from nagging thoughts; gardening has to do with living and dying, with growing and changing, and is a very good possibility to combine work and counselling in a meaningful way.

Institutions and organizations

Horticultural therapy in Germany is often part of the work therapy department in about 400 hospitals and in rehabilitation centres for alcohol and drug abuse. There are 180 anthroposophical work and life communities, and between 265 and 501 'green' departments (REHADAT 2003) in Sheltered Workshops, where physically and mentally handicapped people work in garden and landscape maintenance. Financing is part of the general financing scheme of every hospital or rehabilitation centre. Horticultural therapy services are financed like occupational therapy by health insurances if rendered in a hospital or by social insurance if part of a rehabilitation programme.

Different quality management systems (QMS) are applied according to the general QMS of the head organization. As horticultural therapy is not an autonomous method of treatment but part of a whole it has to comply with the general rule. There is no governmental support; restrictions are usually based on economic grounds.

The Association for Horticulture and Therapy in Germany (G GuT) is a non-profit membership organization and the only one for Horticultural Therapy. It works on a voluntary basis. Members come from Germany, Austria, Switzerland, Italy and The Netherlands. Meetings are organized by chapters in West, South and East Germany. Financing is through membership rates. In 2002 G GuT contributed to the first German congress Garden and Therapy, supported by many different organizations.

Horticultural therapy as a profession

'Horticultural therapist' is an informal term in Germany. People working in this field have a heterogeneous educational background: they may be gardeners or farmers, but also nurses, occupational or work therapists, sometimes psychologists or educators, or they may even have other educational backgrounds.

Horticultural therapy as a profession of its own has not yet found its way into occupational therapy schools or into the departments of horticultural science at college or university level in Germany. Lectures on horticultural therapy have been presented temporarily at the universities of Hannover, Bonn and Dresden. A growing number of theses have been written regarding horticultural-therapy issues during the last 15 years. Preparations for a horticultural-therapy curriculum are on their way at different Universities of Applied Sciences.

Scientific research is rare and scarcely found in exam papers. To be mentioned is the evaluation of the horticultural-therapy programme by 225 participating patients in Langenfeld hospital and in Hof Sondern, Wuppertal, which indicates what patients find meaningful in horticultural therapy. The questionnaire highlighted three aspects:

- restoring the body;
- expanding consciousness;
- improving communication.

Some results have already been published in *Acta Horticulturae* (Neuberger 1995) and in the Symposium proceedings from the Awaji Symposium 2004.

HT in Germany – conclusion

Working in the garden is a consciousness-building process: gardens have their own unique qualities – they present living examples of vitality and they invite us to cope with the world around us in a natural and creative way. While gardening, people are using and affecting body and mind. This is relevant for all people with behavioural disorders, for ill people and for handicapped people, for people with trauma. Gardening connects with the world around and helps stabilizing or changing. It gives people in need something meaningful to do, when they experienced life in different, non-human forms.

FARM ANIMALS IN SOCIAL, EDUCATIONAL, AND THERAPEUTIC WORK

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Introduction

While people develop strong emotional bonds with their pets and while they often perceive them even as members of their family, farm animals like sheep, cattle, pigs, chickens and other species usually are merely regarded as useful 'objects'. While dogs, cats or budgies live inside houses and together with family members, farm animals are kept outside, often far away from the house. This alone probably contributes to the fact that they do not attach as closely to humans as do pets, and it strengthens prejudices that they are shy, cannot relate to humans, or are hard to control. In animal-assisted education we have found that chickens, geese, sheep, calves, pigs and other farm animals have strong positive social and psychological effects. And not only children seem to benefit from interacting with these animals, we are also aware that attitudes towards these species slowly change for the better (Institut für soziales Lernen mit Tieren).

Mobile teams of the 'Institut für soziales Lernen mit Tieren' (Institute for Social Learning with Animals) in Wedemark (near Hannover) regularly visit homes and institutions for children and adolescents, schools, and homes for the elderly in order to support social work done there through animal-assisted education and animal-assisted therapy. Our ponies, donkeys, sheep, goats, geese, chickens and other animals are not only gladly accepted in all these institutions, they facilitate our work and make it more efficient. We also regularly train farm animals to present simple tricks in our circus, and we have trained donkeys, pigeons and other animals for the Hannover theatre. In our two-year courses for professionals from therapy and education, students not only learn about theoretical foundations but also about methods for using farm animals – of course as well as pets – in animal-assisted therapy and animal-assisted education, and about evaluation of their effects. And last but not least, we offer an intensive short-term therapy for families with disabled children.

Animal-assisted short-term therapy

During one week, families are comfortably accommodated in nice apartments close to our Institute. Wishes and needs of the disabled child are at the centre of our work. The child may choose the animal he/she would like to interact with out of about sixty animals. Our team is trained in client-centred work. Children are not judged for good or bad performance. Neither therapists nor animals demand that social norms are enforced; rather, the needs and the capacities of the individual child are accepted and enforced. Empathy and the experience of sensitive-responsivity in interactions with people and animals prevail for our little clients. We encourage the child to show his or her affection towards the animal – most of which are indeed positive – and to take over small responsibilities. Quite often a sense of connectedness and of competence begins to grow. We pay a lot of attention to parents and to siblings of our disabled clients. We also encourage exchange among families and mutual understanding of their situation. Videos of the therapeutic work are shown every afternoon in order to inform parents about social and emotional processes going on while their child interacts with therapists and animals, and, of course, in order to

give them an impression of his or her behaviour. Often parents recognize potentials of their child that were up to then unknown to them, or that they did not expect. Some of these potentials can be somewhat developed during the week, more will happen in the time following the therapy. Parents also more clearly realize sensory, motor or cognitive limitations of their child while he or she interacts with the animal, and sometimes they discover how these should and could be compensated for by people or by changes in their child's environment.

We realize that observation of animal-assisted therapy can open up a new and often deeper understanding of a child's potentials and of his or her unique perceptions and appraisals of demands encountered, as well as of ways for dealing with them. But most of all we are impressed by the strong emotional relationships that develop during the week between children and animals. We call it love, and it can be love for a donkey or a pig, for a hen or a horse. Interactions with animals have proved to be valuable cues for the emotional and social development of children with physical or mental handicaps, and development in these areas is correlated with cognitive functions and with motivation.

Choosing the right animal

The Institute for Social Learning with Animals works with twelve different species. We have taken care that all individual animals show interest in human beings and that they like contact with people. All of our animals can be handled quite easily; they all accept limits set by humans, and they also express discomfort or flight when children step over their limits. Horses, donkeys, calves, goats, sheep, pigs, geese, ducks and chickens as well as rabbits and guinea pigs are all well suited for therapeutic and educational work. They all are fascinating for humans and elicit a lot of attention and interest. Children seem to seek contact with young animals before all, i.e. with small calves, lambs, kittens or foals. These not only allow tender contact but seem to satisfy children's needs to care for living beings, too. When working with kids and farm animals it is important to build up contacts between them carefully, and to help relationships to develop. Sensitive observation and going along with children and animals can be recommended.

Experiencing farm animals

Getting to know a farm animal and becoming aware that this is a unique living being with needs and potentials, able to communicate and to act in its own way, is a valuable experience for a child. Chances to see farm animals in their natural environment have become rare today. Animals that appear in fairy tales or in folklore seem to emphasize some aspects only, they often symbolically present selected traits of animals; usually they have little to do with reality. The media bring children in contact with a virtual reality. This is not sufficient for a full development of knowledge about nature, for an experience that is connected to sensory and to motor schemata, to emotions and the awareness of human's deep-rooted affiliation with other forms of life. In contrast, children are fascinated when meeting real

animals in natural settings. Here, a form of learning can take place which has been instinctively prepared in the course of evolution. Its educational and therapeutic effects are well documented.

Human-animal relationships

In animal-assisted education children not only learn about animals, about their behaviour and their interactions with humans. A relationship of trust can develop. Animals are authentic. Their signals are clear; there are no double-blind messages when it comes to expressing needs or to defining borders. Animals do not judge human behaviour according to cultural norms. Children and animals can 'honestly' communicate non-verbally, using the old language of relationships, namely analogous communication. Interactions are most of the times intrinsically motivated. Usually, children find their optimal levels of activation when interacting with animals, i.e. that level between relaxation on the one side and tension on the other which leads to maximal behavioural efficiency.

For handicapped and disabled persons animals often provide instrumental support, but motor skills and sensory-motor integration are improved, too. Even more important are data showing that animals help to increase self-esteem, independence as well as trust and tolerance. Generally, in children socially important traits like empathy, responsibility, respect and concern for others are developed in interaction with animals, and several studies have shown generalizations with regard to interactions with humans. Farm animals play an important role in our work, and we hope that this will be more and more recognized – for the benefit of our little clients as well as for the benefit of animals.

AGRICULTURE AND HORTICULTURE IN SHELTERED WORKSHOPS IN GERMANY

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Introduction

Since the middle to late nineteen eighties, agriculture and horticulture are being re-discovered as a domain propitious to the work with disabled people and especially for the following reasons:

- Within garden or landscape groups, many Sheltered Workshops continued to care for their own fields and, as a service rendered, fields of external enterprises. In this context the idea was often considered to extend the positive experiences in horticulture and landscape modelling to agriculture as well.

- Possibilities for jobs that did not exist within mechanized agriculture appeared with the transformation and refining of the produce through bakeries or dairies and direct sale.
- The establishment of organic agriculture as an alternative permitted the creation of jobs with a higher safety level and acceptance from society.
- Within the context of an increasing globalization workshops were exposed to a great pressure on prices, so that the search for possible alternatives to industrial work was intensified.
- Within the framework of structural changes in agriculture more and more farm buildings and fields were abandoned. Thus Sheltered Workshops were increasingly proposed to manage an agricultural or horticultural farm.
- The therapeutic value of work in a green section is very high when the farm is conceived specifically to respond to the demands of an activity with disabled people.

What are 'Sheltered Workshops'?

According to the German law for highly disabled people § 54, 'Sheltered Workshop' is defined as follows:

"A Sheltered Workshop is a structure to integrate disabled people into active life. It is designed for disabled people who, because of the type or the impact of their handicap, cannot or cannot yet enter or re-enter the labour market. It must:

1. offer an appropriate professional education and activity with regard to their performances, appropriate salary for the result of their work, and
2. give the opportunity to develop, increase or re-appropriate their performances and capacities, and through this to develop their personality.

It must as far as possible be able to offer a large variety of training possibilities and workstations as well as to present qualified staff to ensure work quality and for the supervision of disabled people".

In Germany there are approximately 630 Sheltered Workshops, in which about 210,000 disabled people work. More information is available at <http://www.bagwfbm.de> (in German).

Against this favourable context 150 Sheltered Workshops with an agricultural or horticultural section have been created in Germany. Interesting is the number of workshops that farm organically: a representative survey of the German organic agricultural community in early 1999 revealed that about 60% of the agricultural or horticultural activities within Sheltered Workshops were conducted organically.

This 'dream ratio' as regards organic farming can be explained by the advantages of the organic way of farming in working with disabled people:

- The safety at work is increased by the non-use of chemical products.
- Through this, meaningful jobs are created whereas these are absent in the conventional agriculture due to the use of chemical products.
- Because external products are not used, the sequence of fertilization, sowing, growing, harvesting is much easier to understand on organic farms.
- Thanks to appropriate prices organic farms can more easily maintain themselves on the market.

- The fact that direct sale, for example through farm shops, often takes place on the organic farms, prevents the agricultural section of the Sheltered Workshop from isolation.
- Organic agriculture enjoys a greater acceptance by the public.
- There is a possibility to be granted state subventions through investment incentives and area-related subsidy.

Due to the experienced advantages of organic farming practices for working with disabled people in Germany, the organic way of farming became a standard in Sheltered Workshops, while conventional workshops constitute a minority. Most of the still conventional green sections are considering the possibility of a conversion to organic on the medium or long term.

Task, financing and organization of Sheltered Workshops

The main task of Sheltered Workshops towards their clients is vocational training, improvement of mental and physical ability, and development of personality. Workshops provide workplaces for persons with physical, mental and/or psychiatric disabilities. Sheltered Workshops are open to every disabled person, independent of origin, characteristic or severity of the disability. Becoming a worker in a Sheltered Workshop requires only a minimum of realizable performance.

Sheltered Workshops are financed by public money (different sources depending on the type of handicap) as well as by the income through production.

Most of the Sheltered Workshops are organized in the umbrella organization 'Bundesarbeitsgemeinschaft Werkstätten für behinderte Menschen' (BAGWfbM; Federal Working Committee of Sheltered Workshops). Farmers and Sheltered Workshops meet annually at a conference and communicate via the website <http://www.gruene-werkstatt.de>. A separate organization does not exist.

Survey

Within the context of preliminary activities to the constitution of the 'Manual for organic agriculture in Sheltered Workshops' by the working group Organic Agriculture, a questionnaire was sent to the German Sheltered Workshops in April 1999. Ninety-five Workshops returned the completed form. When we assume the number of Sheltered Workshops with a worthwhile activity in agriculture or horticulture to be around 150, the survey summarizes information from about two thirds of all relevant Sheltered Workshops.

Most units farm between 30 ha and 50 ha.

- There is an average of 26 disabled people per unit. However, this number varies between 1 co-worker on a farm and 133 on workstations with different green sections.
- Within the 95 Sheltered Workshops, 14 are exclusively concentrating on landscape design and maintenance without actual farming and can therefore not be taken into consideration for this question. This brings the absolute number of

agricultural units down to 81, and the percentage of units working according to organic guidelines up to 63 %.

Prospect

Green sections are excellent opportunities to offer adequate jobs to disabled people. The diversity of tasks, working in nature, experiencing the cycle of seed – plant – harvest, contact with animals, a holistic pedagogic starting point – these are all arguments in favour of green sections. They cause more and more Workshops to set up a green section, despite the strong engagement needed and risks that may be encountered. The pride taken in the products that are made does not only concern the disabled people but often benefits the whole workshop, since the green section becomes the image maker of the whole Sheltered Workshop.

Still, the enthusiasm for green sections within Sheltered Workshops should not mask the existing problems. Indeed the economic pressure on Sheltered Workshops rises and green sections are no exception. Because especially agricultural activities are burdened with relatively high investment costs and need additional staff for care and follow-up, green sections are increasingly critically considered from an economic point of view. In some Workshops, however, even if they are utilizing all their optimizing potential, green sections will not bring the results probably expected by the management. Here we must clearly use the meaning and value of a green section for the whole unit: it is a striking argument that it employs a group of people who would not feel comfortable somewhere else or cannot cope at all in an industrial section. In such cases, a sort of ‘mixed calculation’ in favour of the green section appears indispensable in order to continue to enjoy its performances.

Despite all their advantages, one cannot expect an explosion of the multiplication rate of green sections in Sheltered Workshops. The director of a Sheltered Workshop summarized the situation concerning the establishment of green sections as follows: “This is only possible with engaged people”. This is surely true but the causal effect goes both ways since a well-conceived green section generates satisfaction at work and engagement from the part of the involved workers as well.

In the final analysis, there are by now green sections in Sheltered Workshops that are stable in the long run and that are suitable examples to motivate new organizations to invest in such a section. By doing so they contribute to the life of carers and disabled persons, who are proud of their products and highly value the meaning of their work.

AN EXAMPLE: THE MEIERHOF FARM OF THE EBEN-EZER FOUNDATION

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Organization

The Eben-Ezer foundation is considered an in- and out-patient structure with the aim of helping disabled people. The organization was founded in 1871 and belongs to the social welfare work of the regional Church of the city of Lippe. It supervises 900 people of all ages and with mental handicaps of all degrees.

The Meierhof farm is organized in two parts: the residence for adults comes under the responsibility of the farmers while the 'working' part comes under the responsibility of the Sheltered Workshop. Responsibility for the whole Eben-Ezer foundation is carried by a full-time council composed of both a theological and a commercial executive director. The higher committee is the Supervisory Board.

History

The foundation started with agricultural activities at the beginning of the last century. Ensuring food supply, during and after the first World War especially, was the decisive driving force for the creation of an own farm, which was developed beyond the scope of the small vegetable gardens existing until then. In 1919 the farmland already covered 30 ha to supply food for 300 disabled people of the Eben-Ezer foundation.

After establishing industries and trade businesses in the proximity of the farm, agricultural activities were re-orientated at the beginning of the nineteen fifties. The Meierhof farm was founded outside the village and several residences were created around it, partly within its immediate neighbourhood, partly in nearby villages and on other farms.

The Meierhof farm today

Today the Meierhof farm provides jobs for approximately 30 disabled people. About half of them live on the farm. In 1999 the farm was converted to certified organic agriculture and joined the German organic producer group Bioland.

The farm offers different (production) activities:

- Cereals and root crops on an area of more than 100 ha.
- Potatoes grown, sorted and sold on the farm as well as to the affiliated potato-peeling section in the WDP.
- Milk production, with 60 cows kept under animal-friendly conditions (open-course stable, access to grazing grounds), automatic milking system, as well as cattle breeding on an area of 40 ha grassland.
- Pig breeding and fattening, sale of meat.
- Free-range hens, sale of eggs.
- Horses, sheep and goats, with supervision of the animals.
- Management of the forest grounds and the sawmill.

The 'value' of agriculture in the Eben-Ezer foundation

For the clients, the daily change between private and professional environment provides diversity and a beneficial rhythm. These are pacemakers in our lives that prevent stagnation and lethargy. Work as a part of the rhythm of life gives structure to our everyday life – a fundamental need of every human being. Workstations in the Eben-Ezer foundation connect disabled persons to society and make it available to them, in which they could otherwise not participate. The meaning of a job for a person with a handicap is not only to be seen from a material point of view; a 'work community' makes it possible to practice and mutually show competences and knowledge. Pedagogic self-evidence is the following: accomplishments should be measured in accordance with capabilities. Self-esteem increases due to the fact that a person has a profession also.

Through living and working together in one place people share much time and experience, also anger and troubles. Here are possibilities of reappraisal, be it through conflicts or by being in a group.

Today men and women with very different individual biographies, backgrounds and capabilities work at the Meierhof farm. Some of them are returning from so-called 'foster families' and some have decades of agricultural work on other farms behind them. Besides an occupation in agriculture under a better supervision, many of these people wish to stay in an agricultural environment when reaching retirement (to stay as residents). For others, mainly for younger people, the diversity of activities, working with animals and particularly being linked with nature within a job offers interesting work and living opportunities. They are – in accordance with their cognitive abilities – strongly bound with, and feel responsible for the various production processes.

Financing

The Eben-Ezer foundation receives a fixed care rate from the rehabilitation body responsible for each occupied workstation, normally the supervising service for social welfare.

This care rate finances the supervising staff, the pedagogic employees of the different Sheltered Workshops. The amount of these obligatory allowances planned by the government allows the supervision of 12 disabled people by one pedagogic employee in the working section of a Workshop. However, as the Meierhof offers very diverse working possibilities, part of which are also intensively supervised by technical staff, proportionally far more group leaders than pedagogic staff are needed on the farm. Their jobs must be financed by the farm itself.

The profit resulting from farm activities should hence finance the disabled workers' remuneration, the salaries of the supervision staff as well as investments and maintenance. Since costs of equipment and up-keep of the working space in the Workshop are often high, the body responsible for rehabilitation pays 30% of the investments made in the production realm.

Recent modernization provides a well equipped working space in the long run. They are a professional stimulation and qualification orientated towards the labour

market and finally the economically decisive positioning within an evolving agricultural market.

ANOTHER EXAMPLE: CATHOLIC WORK COLONIES 'MARIA VEEN' AND 'ST. ANTONIUSHEIM' – AGRICULTURE WITHIN ORGANIZATIONS CARING FOR THE HOMELESS

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Origin and history

At the end of the 19th century, the creation of so-called 'work colonies' was an innovative answer to the very widespread homelessness and migrant poverty. Indeed in Germany the number of migrant jobless and homeless people increased considerably with the industrialization and in particular since the 'Gründerkrise', the 'crisis of the founding', in 1873. A stay in the colonies was voluntary. Some migrants stayed one night or a few days only, others months or years. Indiscriminately everyone who stayed had to participate in the construction and upkeep of the colony, if not handicapped due to age or disease. The founder of the first work colony, Friedrich von Bodelschwingh, summarized the concept of the colonies with the words 'work instead of alms'.

In 1888 the Association for Catholic Work Colonies was founded in the Land (country) Westfalen in Germany with the participation of the diocese of Münster and the archbishopric of Paderborn. At the same time the first work colony named Haus Maria Veen was started south of Münster. The second colony St. Antoniusheim followed 20 years later to the west of Münster at the border with The Netherlands. Until today both facilities are engaged in helping homeless and old people, but they have now only little in common with the colonies of the 19th century. Modern single and double rooms have replaced the dormitories of the last decades. The patriarchal structure has been replaced by modern social management schemes offering interdisciplinary help and support, which range from social and addiction work to house keeping and caring for elderly and ill people.

Agriculture as a social programme

The basic idea of the work colony was that under their supervision and guidance the nomadic poor could help themselves and others in need of accommodation and food. This is where agriculture played an important role, bringing the hope that a broad self-sufficiency was within reach.

Colonies were often founded on the fringes of expanding industrial and urban centres. Supposed moral and political dangers of the modern cities were to be

avoided in that way. Very often available land, such as marshland or heath, could hardly be used for agriculture and was unfriendly to human settlement.

Due to the poor soil quality, neither Haus Maria Veen nor St. Antoniusheim was able to support the up-keep by their own means only. The number of people in need who frequented the colonies was too high and agriculture yielded too little. From the beginning both houses were dependent on donations and public subsidies.

Nonetheless, like in other work colonies, a larger and more diversified agriculture developed in the first half of the 20th century, which contributed to the self-sufficiency of colonies and reduced their need for public funds. The idea that colonies could be independent was then partially honoured. Besides the evident economic assets, agriculture offered further advantages. First, until late in the 20th century colonies benefited from the agricultural experience of the homeless migrants, of whom many – as most of the population – were already familiar with farming activities. This meant that not their deficits were highlighted but their capabilities. It was realized that even with limited machinery and little rationalization agriculture could be viable. In this way numerous jobs were provided that did not require special skills. As a result agriculture provided the socially marginalized and stigmatized nomadic poor with the experience of contributing to community.

In addition, the idea according to which hard work in the isolation of the colony was a preventive and curative means to fight alcoholism (widespread among nomadic poor) played an important role. Finally, the rhythm imposed by natural events structured the days and the years and thus contributed to the stabilization of the colonists' life.

However, under changing socio-economic conditions after the middle of the 20th century these assets successively lost their value. The increasing mechanization, specialization and rationalization in agriculture demanded special skills. These were ever rarer among the homeless people, since many hardly had any previous experience with modern agriculture. This meant that the possibility of making ties with the capacities and knowledge of the colonists faded away. In addition, the attractiveness of Haus Maria Veen and St. Antoniusheim diminished as a side effect of the development of a Social Welfare State, which provided help for the homeless and the jobless. Thus the contribution of agriculture to the maintenance and functioning of the colony and the attractiveness of agricultural activities diminished steadily. Activities in horticulture were created instead but also and above all in assembly and manufacturing, and in recent times also in the services area (laundry, cleaning). With some delay work opportunities in the colonies reflected the evolution of the general labour market. At the end of the 20th century less than 10% of the inhabitants of St. Antoniusheim or Haus Maria Veen were working in agriculture (without horticultural activities). At the same time and in comparison with other sectors, agricultural activities employ a high rate of qualified staff.

Contrary to comparable social structures, neither Haus Maria Veen nor St. Antoniusheim gave up their agricultural activities. This cannot be explained by the argument of tradition. One should have in mind that agriculture carries a positive image and inspires sympathy, which can facilitate the acceptance of a social structure in the local and regional environment. This is particularly the case when

agriculture is successful and thus manages to raise interest among the public. The agricultural section of Haus Maria Veen was granted a prize for their dairy activities several times until the end of the nineteen eighties. Maybe even more meaningful is the consideration that agriculture contributes to maintaining a large number of diverse jobs in the facilities. Because residents of Haus Maria Veen and St. Antoniusheim expect to be able to contribute to the running of the units in accordance with their capacities, diversified work possibilities are crucial so that different demands, capacities and wishes are met. It is also about giving chances to everyone to develop the feeling that he/she is contributing to the up-keep of the houses. Despite the fact that both houses are today largely financed by public subventions, part of the maintenance costs is still to be covered by the houses themselves, as in the past. Colony residents are aware of this. Finally, agricultural activities are characterized by natural and to a certain extent self-evident rhythms that correspond to the organization of the day and year. This is a very helpful guiding path, especially for people who have problems structuring their lives and days.

Future

On the one hand, we have an agriculture of which the economic contribution to the running of the colonies diminishes gradually; on the other hand there is an agriculture that promotes an image and helps to maintain large and diversified work opportunities, which contribute to the development of self-esteem and the structuring of days. What should we do? Stop the agricultural activities and use the available natural resources in other ways? Invest and run a highly mechanized agriculture, which would not bring work opportunities for residents but would generate profits, which could be reinvested in other projects? Start an organic farm, in which labour could be given a new value, but which bares considerable organizational and financial risks and which might face acceptance problems? Or choose a middle path, for example by consciously splitting the agricultural activity into a profit and a non-profit part – the first one mechanized and rationalized, the second for the image and above all for the people who want to work and also can work, but at a different pace?

FARMING FOR HEALTHY PEOPLE, FARMING FOR HEALTHY LANDSCAPES – PERSPECTIVES OF MULTIFUNCTIONALITY WITHIN FARMING FOR HEALTH IN GERMANY

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The appearance of cultural landscapes in Central Europe is strongly influenced by the farming of the land – ca. 50% of Germany's land is farmed; including forestry

this figure is more than 80%. Today only 3% of the population is working on farms; they create landscapes for the whole German population. Landscape is a production area for farmers. But landscape is also a place for living, working, housing, experience, recreation, moving through, and making connections.

In former times cultural landscapes were a by-product of agriculture with lots of hand work, whereas today a diverse and aesthetic landscape is preserved and developed only by active decisions and means. Also on organic farms cultural landscapes do not appear automatically as by-products of organic farming methods.

During a project 'Optimizing nature conservation on organic farms' (supported by the German Federal Agency for Nature Conservation with funds of the Federal Environmental Ministry) farms that implement approaches of nature conservation into their practice were investigated (Van Elsen et al. 2003). What are the motives of these farmers to deal with questions of nature conservation and landscape development, and – furthermore – to create and develop their landscape actively? Which circumstances allow such initiatives? What are the motives behind them?

Due to the lack of previous investigations an explorative approach was chosen. In different regions of Germany 13 interviews were held on organic farms belonging to different certifying organizations. A wide spectrum of farms with respect to size, geographical site, structure, social structure and assumed intentions of the farmers were chosen. The interviews were elaborated using methods of qualitative social analysis (Mayring 1988; Strauss and Corbin 1996).

The results show that the motives of farmers are exceptionally intrinsic in nature. Especially the relation to nature is very important. Two types can be distinguished, one of a relation intimate to nature which is characterized by a close connection to nature and landscape including feelings and the ability of 'living within'. The other type is characterized by a relationship 'more distant' to nature.

Two types of reasoning can also be found for nature conservation on farms. On the one hand the protection of endangered plant and animal species and biotopes, and on the other hand a phenomenological approach with a strong connection and reflection of personal experiences.

One interesting result was that traditional family farms usually have less time and financial support to integrate such aims than farms that work together with clients in their farming system. In 2004 a new project has started to investigate this phenomenon systematically.

Petrarca – The European Academy for the Culture of Landscape – intends to evaluate nature conservation and cultural landscape as marketable products of agriculture. People living and working on farms become connected to their places, to nature and to landscapes. Farms become seed points for a sustainable landscape development. In combination with 'Farming for Health' approaches this can lead towards new perspectives for sustainable farming for healthy people and for healthy landscapes.

German examples of such landscape processes are seminars by Sonja Schürger with people of the 'Bioland-Ranch Zempow' (Schäkel and Schürger 2001) and seminars held by Thomas van Elsen on the 'Adolphshof' (Hämelerwald) and Medewege farm (Schwerin).

NOTES

¹ especially the discussion on 'Irren-Colonien' in: Damerow et.al. (1854-1878), see: Snell, Voppel, Duval, Flemming, Güntz, Jessen, Lachr, Landerer, Roller, Koepp, primarily in: *Allgemeine Zeitschrift für Psychiatrie und psychisch-gerichtliche Medicin*, Vol. 1-40, 1844-1884

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CHAPTER 16

INTEGRATION: YOUTH WELFARE AND SUSTAINABLE DEVELOPMENT IN SWITZERLAND

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"If we were not looked after in our first years, we would not be able to survive – and if we were not looked after humanly, we would resemble a human being only from the outside. ... It is part of the humanity of the human being, that at first it must become what it already is. To be a human being is to become a human being!"

Hans Saner, Philosopher, Basel, Switzerland

Abstract. In Switzerland with its 7.3 million inhabitants, about 200,000 people are working in the agricultural sector managing 66,000 farms. Between 1990 and 2000, the number of agricultural employees shrunk by 50,000 and more than 22,000 agrarian businesses were abandoned – mostly small-scale farms with less than 3 ha.

The Emmental region is a part of Switzerland characterized by a high share of agriculture. Compared to other regions the proportion of rural inhabitants is still relatively high, the decline of farms is therefore below the figures of the rest of Switzerland. Nevertheless, as an effect of the structural change also in rural regions, the remaining farmers depend more and more on additional incomes and are looking for extra work in different branches. Although the Emmental region is one of the economically poor marginal regions of Switzerland, it has a multitude of strengths: besides the intact landscape and numerous natural resources the inhabitants have a strong liaison to their culture and traditions. The family structures are essentially still in good order and the social network is functioning. Based on these strengths, the project INTEGRATION aims at three main targets:

- Providing space for living and developing on a qualified farm with system-therapeutic and social-pedagogic support for socially deprived children and adolescents from urban centres such as Berne, Basel and Lucerne.
- Offering places of care creates innovative and sustainable supplementary earnings for the farming families in an economically unfavourable mountain area.
- At the political level, a new quality of the relation between 'city' and 'country' evolves by bringing together different cultures and exchanging ideas and experiences.

INTEGRATION is a social youth-welfare project with a strong liaison with the economic sector. The well-being of the involved children, adolescents and partner families comes first but with its connections to economic and ecological aspects INTEGRATION has also become a typical project in the field of sustainable rural development. This may have led to the invitation of the representatives of the project to participate in the preparatory workshop in Vorden (The Netherlands), April 2004. They had the opportunity to present and discuss the philosophy of the project INTEGRATION and its results during the last eight years. As an innovative project in the field of social youth welfare in Switzerland,

INTEGRATION was also asked for a contribution to the publication 'Farming for Health'. Although there are quite a lot of activities in this field, the term 'Farming for Health' is neither widely known nor used in Switzerland yet. After the preparatory workshop, the project team discussed an appropriate translation into (Swiss) German; the best working title was found in 'Landwirtschaft und soziale Wohlfahrt'. It will be a challenge for the future to determine a term that meets most of the requirements of the then involved organizations.

The first part of this contribution gives a short overall description of activities in Switzerland, while the project INTEGRATION with its targets, activities and results is described in the second part.

Keywords: community and regional development; partner families; community tolerance; school compatibility; family compatibility; systemic therapy; children and youth psychiatry; therapeutic pedagogy; social pedagogy; urban and rural cooperation; qualified additional income; protection of children and minors; UNO convention on the rights of the child

'FARMING FOR HEALTH' ACTIVITIES IN SWITZERLAND: AN OVERALL DESCRIPTION

In Switzerland, Farming for Health (FH) activities have grown into an important factor in the care, education, support and schooling/teaching of children, adolescents, senior citizens and physically and/or mentally handicapped people. Especially during the last 10 years, more and more services have been created by and for farmers to give them the possibility of raising their income. Although the additional family income is most welcome, it is only one of numerous reasons for their engagement: having children of their own and a multifaceted agricultural enterprise, they can afford to provide their personal qualities and their structures for a particularly demanding social assignment. Qualities as human kindness, empathy and patience always come first. On the farms clients are not only integrated in the family structures but they are also involved in the daily working process. Depending on their requisites and their skills, the clients are taking on various responsibilities. For example, they can be involved in horticultural tasks or they can be assigned the care of animals. In Switzerland there are numerous farms for different target groups: children, adolescents, drug addicts, handicapped and elderly people.

As a result of the many good experiences of clients, farmers and placement organizations, the resources of a farm (family structure with more than one generation, environment, animals) are in the meantime respected and demanded by the authorities and the public as an important alternative to placements in homes. What started in small steps between one farmer and maybe one client or social worker, has now grown into a 'market' of which it is more and more difficult to keep the overview. The requirements for a placement are governed by public law. The 'Pflegekinderverordnung' (by-law for foster children) is the legal instrument for the authorities to guarantee fair care systems. With regard to the social welfare of the clients it is indispensable that the persons in charge are sufficiently qualified and can count on supervision by experts. Farmer families within the structures of INTEGRATION for example have to pass a further education in systemic health care and can claim a 24-hour service from the therapists.

Today, most of the farmers with social assignments are linked with institutions that work on a professional basis in the placement of clients with special needs. Although not the rule, in Switzerland it is basically possible that farmers themselves find clients. Since this can lead to difficulties, the partner families of

INTEGRATION are carefully selected, qualified and seriously prepared for their challenging functions. Most organizations are responsible for a certain quality standard of a placement and for the support and supervision of farmers and clients. One important role of the placing institution is to guarantee that neither farmers nor clients burn out due to a false placement or inadequate treatment. False placements can result from a lack of information about the circumstances that lead to a placement and about the physical and/or mental condition of the client.

The placement institutions can be organized on a private or public judicial basis. In either case the communal authorities are responsible for the supervision and control of the placements for which they nominate specifically trained persons who visit the clients and the host families at least once a year. They also report to the communal and cantonal authorities about their visits.

The following organizations are well known for their activities in social welfare (no comprehensive list):

- Schweizerische Pflegekinderaktion: experts in fostering (<http://www.pflegekinder.ch>)
- Bruggeboge: situations of crisis (<http://www.bruggeboge.ch>)
- Passaggio: social-pedagogic interventions
- Schulheim Effingen: approved school, home (<http://www.schulheim-effingen.ch>)
- Caritas Schweiz: time-out in the calmness of the mountains (<http://www.caritas.ch>)
- Familienplatzierungen OGG: placements in families (<http://www.ogg.ch>)
- Verein INTEGRATION: youth welfare and sustainable development of rural areas (<http://www.integration-eggiwil.ch>)
- Trial: youth welfare and family placements (<http://www.trial-interventionen.ch>)

FINANCIAL STRUCTURE

The economic situation of a farm in Swiss rural regions is challenging. The prices for dairy products have been decreasing for years, whereas the costs of living have been increasing. Due to the hilly topography and the demanding climatic situation, farmers are limited in their actions and possibilities. In most cases they are depending on an additional income, which they can find in nearby local industries or through specialized home work. It is a strategy of the federation and of the cantons as well, to support the local population to stay in their familiar surroundings and simultaneously to care for the landscape.

The placement of children and adolescents in families is regulated by national law in the 'Pflegekinderverordnung'. In addition, the cantons have their individual regulations concerning the financial aspects, e.g. costs of care and education, costs of food and housing, etc. The placement of other target groups like elderly or disabled people is not yet regulated in detail. There are different public or private organizations like OGG (economic non-profit association of the canton Berne) or trial interventions (Thun) which organize placements of either children or adults with farmer families. The requirements to be met by the attending farmer of course depend on the client. The definition of quality standards as well as guidelines for the

financial structure for the different target groups in Switzerland are still in the early stages!

The costs for a placement in a partner family are to be paid by the community in which the child or young person lives with his birth family. These costs are to be paid out of the normal community budget, i.e., the budget for social welfare. The costs vary according to the needs of the clients and according to the circumstances of a placement. Placements that involve specialized organizations generally have higher costs than placements without support of specialists.

Compared to the costs of placements in homes, the costs of placement in families is between 30% and 50% lower, while giving the same level of quality and achievement. These figures are based on experience and still have to be substantiated by further studies and research activities.

Economically, the attendance of a foster child means that the farmer family earns an additional income. Within the structures of INTEGRATION this additional income can reach the level of a 50% job. It is a basic principle of INTEGRATION that only families with a secure existence are authorized to accept a foster child. Otherwise the financial dependency would be too strong, which could lead to misconduct.

THE ROLE OF THE MINISTRY OF AGRICULTURE

The placement of children, adolescents and adults in homes or families comes under the legal competence and responsibility of the Ministry of Social Welfare and the Ministry of Justice; this means that the Ministry of Agriculture is not involved directly. Nevertheless, the Ministry of Agriculture ('Bundesamt für Landwirtschaft', BLW) is very much interested in new and innovative cooperation between farming and social welfare. The BLW supports projects at non-material level. It recognizes that the cooperation between rural and urban regions can, under certain circumstances, be an initiative for a sustainable development with profit for both sides.

A strategy of the responsible persons for the sustainable development of rural regions is to provide the farmer families with some sort of additional income. When the economic structure of a farm is intact, the inhabitants can stay in their native surroundings and are able to maintain the landscape. The importance of their role as landscape developers is growing but the implementation of this strategy depends on additional sources of income that are competitive and attractive enough to bind the families to the rural sites. But all in all, there is also a wide range of advantages in rural life: an intact environment, pure water, fresh air and a lot of natural resources, as well as intact family structures, traditions and important values. The project INTEGRATION is based on these traditional structures and uses them in an innovative way.

NETWORKING

Generally, networking is not yet very strongly developed, but the different partners and players in this 'market' have recognized the advantages and necessity of networking and are making progress. It will be a challenge for the future to activate communication between the different providers within the widespread projects all over Switzerland. The scheme 'Farming for Health' in this regard can become a catalyst.

The project INTEGRATION has created a network with the 'Juvenat der Franziskaner' (Franciscans), an institution for boys between 12 and 15 years of age with its own school. The boys of the Juvenat der Franziskaner spend weekends and holidays within the farming families of INTEGRATION. The families also are at their service in case of crisis in the form of so-called 'time-outs'. During these time-outs the boys can recover themselves and return to the asylum school and group again.

The project INTEGRATION also sustains a network with the ZSB (Zentrum für systemische Therapie und Beratung Bern – Centre for systemic therapy and advice Berne), which is given the task of education and further training of the partner families.

RESEARCH

Research activities in Switzerland in the field of social innovations are manifold. Different programmes and institutions either from universities and colleges or from private organizations provide qualified basic principles for alternative methods concerning the liaison between agriculture and social welfare and/or therapy. Research activities concerning the success of integrated persons on active farms are still in the early stages. Within the INTEGRATION project, a first study has identified twelve effect factors that can be referred to as success factors (see the last chapter of this paper). The results are based on experience but also include scientifically based elements.

Important addresses of organizations involved in research are, e.g.:

- Swiss Research programme 'Ageing' (<http://www.snf.ch>)
- National Research Programme 45 'Future Problems of the Welfare State' (<http://www.sozialstaat.ch>)
- Büro für Arbeits- und Sozialpolitische Strukturen (<http://www.buerobass.ch>)
- Switzerland: Towards the Future (<http://www.swiss-science.org>)
- Social Science Information Centre (<http://www.gesis.org>)

The INTEGRATION project includes a 'research section' with specialized experts. They work out studies concerning the forces and effects of the project activities, depending on current questions. The central interest of these studies is not scientific completeness but pragmatic results in the sense of quality development (see also the section about effect factors at the end of this paper). Coordination between the different institutions that carry out studies is still insufficient and has to be approved in the years ahead.

AN EXAMPLE: THE PROJECT INTEGRATION – VISIONS AND TARGETS

INTEGRATION is primarily a project in the field of youth-welfare service. It was set up in the period 1994 – 1998 on the initiative of Urs Kaltenrieder und Susanne Frutig from 'Atelier ASPOS' in Dielsdorf, Zurich, in cooperation with the authorities of a small village in the Emmental region, Eggiwil. The basis of the project is a network of qualified farmer families. They take care of psychosocially deprived children and adolescents from urban areas of Switzerland. The children and adolescents are attended and educated on a short-term or long-term basis. Depending on their ability to work in groups, they attend the schools of the village or get individual teaching or are educated in small groups. The latest development is that adolescents can also visit a pedagogic school within the project structures. The family places are also available for pupils of the systemic school and therapy centre 'Juvenat', who can spend weekends, holidays or time-outs on the farms in Eggiwil. The project founders as well as the psychiatrist work on a systemic basis, they are trained in systemic therapy and advice. The partner families are permanently accompanied and supervised. Furthermore, they have to undergo a curriculum in systemic competence.

INTEGRATION is not only an institution in the field of youth welfare in a conventional sense. It tries to make an important contribution to the economic development of one of the most underprivileged regions in Switzerland.

The INTEGRATION project has been offering qualified places of care for psychosocially deprived children and adolescents since 1998. At the same time, a process of development was initiated in a region that is strongly affected by changes in the economic structure. This process is called 'systemic community and regional development'. During the years, numerous activities have evolved, all of which build on the principles and theory of sustainable development.

The reasons for allocating children and adolescents to external farming families reach from overstrained parents right to physical abuse. The INTEGRATION project offers the adolescents a surrounding which allows growing up in dignity and trust. Instead of being sent to homes, the children and adolescents are allocated to qualified places of care with partner families in a rural area.

The INTEGRATION project has three main targets:

- Providing space for living and developing on a qualified farm with system-therapeutic and social-pedagogic support for socially deprived children and adolescents from urban centres such as Berne, Basel and Lucerne.
- Offering places of care creates innovative and sustainable supplementary earnings for the farming families in an economically unfavourable affected mountain area.
- At the political level, a new quality of the relation between 'city' and 'country' evolves by bringing together different cultures and exchanging ideas and experiences.

Usually, the adolescents attend the public school. Together with the teachers they agree upon individual objectives and progress is checked periodically. The cooperation between school and partner family is supported by professional advisors. Regular meetings and supervisions guarantee professional quality

management. In addition, the children and adolescents are accompanied by a medical practitioner and a psychiatrist. An important part of qualifying as a partner family is the assessment, right at the beginning of the contact. Interested family members have to pass a qualifying process in the form of structured interviews. If the discussions are successful for both sides, the future project partners have to attend a further education programme, which prepares them for their challenging duties. After a successful placement, the partner families can count on permanent supervision by the therapists and they can ask for crisis interventions. The children and adolescents follow a schedule in which their duties and spare time are arranged. Of course they are involved in the daily working processes of the farm. Depending on their abilities they can, e.g., be made responsible for the care of animals or for preparing firewood. Work on a farm in the Emmental region never stops!



Figure 1. Eggiwil is a village in central Switzerland with 2,600 inhabitants, who live on an area of 60 km²

Geography

Eggiwil is a village with 2 600 inhabitants, who live on an area of 60 km². Despite collapsing structures in the farming sector, there are still 240 farms scattered over the total area of the community. Due to the hilly topography, the development of all these farms requires very strong efforts and claims a high financial input. Another factor contributing to the challenging rural life is the number of schools: in Eggiwil, the children are educated at nine different locations, scattered across the whole area. Eggiwil is part of the famous Emmental region, which lends its name from the Emme river. The Emmental is a scenic landscape with a high percentage of forest. Grass is the main crop grown between the forests, which presents the basis for the also famous Emmentaler cheese. Although the region is one of the most beautiful cultural landscapes of Switzerland, it is among the economically poorest areas in the country.

Partner families

In this context, the project INTEGRATION with its possibilities to earn some additional income is very welcome in these areas. But not every family or every locality is suitable to meet the demanding prerequisites of INTEGRATION. The welfare of the young person must always be the central objective, and it is therefore very important to guarantee a high level of quality within the partner families.

The important prerequisites for qualifying as a partner family are:

- the parents of the partner family must have children of their own
- the requirements of the World Health Organization for a sane family must be met
- sufficient room
- domestic animals that are kept according to the natural needs of the species
- the economic existence of the farm must be secure
- interest and motivation in permanent further education

Depending on their age and physical possibilities, the children and adolescents must also work on the farm. The therapist defines, together with foster parents and client, a timetable with daily tasks which correspond with the possibilities and limits of the client. Of course, the adolescents usually also attend the public school. If this is not possible, they are educated within smaller groups in a special small school (therapeutic pedagogy).

There is a strong cooperation between either the teacher of the public school or the private teacher and the partner families. The adolescents are also coached by various experts within the project: therapist, psychiatrist, physician, etc. From the side of the therapist, there are individual objectives for every youth, which are evaluated on the occasion of regular meetings and supervision hours.

For adolescents who are permanently integrated in a farmer's family, the project team later arranges practical training or apprenticeship places. There is a wide choice of places in industry, trade and services in the Emmental region.

Assignments

The INTEGRATION project makes use of three forms of allocations:

- a. Medium- and long-term allocations in families: the children and adolescents are – based on orders of public authorities – placed permanently in a partner family and attend the public school.
- b. System-therapeutic supplementary arrangements: the children and adolescents from a home for systemic schooling and therapy (Juvenat) spend weekends, school holidays or time-out stays with partner families of INTEGRATION.
- c. Specialized evaluation and observation activities and long-term therapy programmes: children and adolescents with prominent developmental deficits receive stationary care and treatment in natural surroundings. This allows adolescents who do not yet fit into a group to acquire stability and social competence in a small and graspable environment.

Target groups for the different forms of allocations are children and adolescents of both sexes from 2 to 14 years of age.

Type of arrangement	Form of allocation	A	B	C
Social environment oriented, therapeutic care of children and adolescents on farms by qualified and trained partner families		*	*	*
Systemic-/social-environment-oriented therapeutic support and care of the partner families and the original family by an interdisciplinary team of professionals		*	*	*
24-hour emergency service by an interdisciplinary team of professionals		*	*	*
Medical care by medical practitioner of trust		*	*	*
Specialized psychological examination of children and adolescents by specialists in psychiatry and psychotherapy including original family and partner family		*		*
Individual and small-group tuition according to individual schedules in society-owned private school			*	*
Individual, family and group therapies		*		*
Local school of Eggiwil, if necessary with individual supporting tuition		*		
External leisure activities such as local societies, etc.		*		*
Vocational follow-up programmes with apprenticeships in partner firms		*		*

Experiences, successes and results

It is important that the placement of children, adolescents, senior citizens, etc. is done within certain rules that consider the possibilities and limits of a community or a region (communal compatibility). The community of Eggiwil, which is involved in the INTEGRATION project, e.g., decided that the number of children that can be placed in families and visit the local school should not exceed 12. The reason is that the local school should still be able to integrate these children without being affected by their problems and different social and cultural backgrounds (school compatibility).

Since 1998, about 50 psycho-socially periled children and adolescents have been allocated to 17 farming families. The therapeutic success rate is high; a future study will compare the results of the family placement system with stays in asylums. The net value added of the INTEGRATION project has reached 5 million Swiss Francs (approx. 3.3 million Euros) since 1998. Taking over care assignments is a great challenge for the partner families. But it also provides them with a considerable supplementary income.

In relation to the INTEGRATION project, a number of further activities and jobs have developed which are welcome contributions to the economy of the region. Thanks to the INTEGRATION project the village of Eggiwil and the Emmental

region could improve their image as an innovative community and region in connection with sustainable development.

INTEGRATION was accepted after thorough examination as a full member of the Swiss Association for Social-Therapeutic-Pedagogics (Integras) in 2002.

Regional development

In 1998, the 'Eggiwil Symposium' with the focal point 'New partnerships between city and country' was initiated in connection with the successful development of INTEGRATION. Since then, the symposium takes place every year and is attended by people from Switzerland and abroad. In 2000, the 'Eggiwil Institute for Systemic Community and Regional Development' was founded. The supporting society consists of private companies and various regional organizations.

A current pilot project 'Geld + Geist' (money and mind) is an answer to the structural adaptations in marginal areas. As a consequence of the cuts in public spending, the tendency of migration to the centres grows. 'Geld + Geist' wants to support investments in local development and innovations in rural areas by transparent investments for private persons. This means that not only traditional knowledge is freshly used but it also enables an innovative handling of natural resources. The Eggiwil Institute determines the respective criteria for social, ecological and economic compatibility of the project ideas.

Since the demand for allocations in farming families exceeds the availability of places, the INTEGRATION society wants to extend the number of places in the medium term. In the regions around the Napf mountain a potential of 80 to 100 places in families can be estimated, which meets the requirements for participating in the INTEGRATION network (Napf is the dominant mountain within the Emmental region). An extension of the project could substantially contribute to diminishing migration from the Napf area with its scattered settlement structure.

The care of psycho-socially periled children in farming families is not a cheap way of conserving agricultural structures. The requirements on the farmer families are very high, the compulsory basic and further education are demanding. During the pilot phase of the project, the society had to prove that the offered care meets the requirements for professional work. The INTEGRATION project, starting from a social problem, has developed into a typical project connected with sustainable development and local agenda processes (LA 21 as an important outcome of the world conference in Rio de Janeiro 1992).

Federal and cantonal authorities accept the INTEGRATION project nowadays as an extraordinary, but very well suited form of a modern policy of regional development. The Swiss confederation has been supporting the extension of INTEGRATION since the end of 2003. Especially the State Secretariat for Economic Affairs (<http://www.seco.admin.ch>) is very interested and involved in the process of sustainable development of rural and marginal regions.

Future

The projected development of INTEGRATION is emphatically supported by the canton of Berne: "... the further steps to develop the project INTEGRATION are very much acclaimed. The project guarantees a high professional quality and the so far achieved activities are highly valued".

Since the positive social results the economic added value is remarkable, INTEGRATION can be marked as a project in the sense of sustainable development. Especially the fact that parts of the population and the authorities develop a new comprehension of their role in the region leads to innovations. Slowly, Emmental evolves from a beneficiary to a provider region and also to a nationally and internationally approved partner for rural and urban development.

Parallel to the launching of new projects, the awareness of the locally available resources increases. Considering the natural and traditional resources, the Emmental region is a rich region: pure water, fresh air, woods, varied landscapes. But compared to urban surroundings, the social structures are healthy as well. On this basis lots of new and innovative projects can still grow and contribute to the added value of the region.

Within the project structures, the further education of the partner families has a special significance. By an instruction course over three years the farmer families are qualified in systemic methods and obtain the opportunity to exchange their experiences with other families and with professional therapists. As a result they are provided with a diploma and become experts themselves in the field of social care. After some years of experience, they can extend their range of social 'products' and gain other target groups as older people, drug addicts and managers. Other target groups also mean that the farmers again have to pass a special assessment that is designed for the demands of this new client group.

THE NETWORK INTEGRATION IN THE VIEW OF THE PROVIDER ORGANIZATIONS

Introduction

The managing team wanted to know how the cooperation in this innovative project of youth welfare was rated in the view of the providers and therefore commissioned an inquiry.

During the six years of the existence of the named institution of youth welfare, children and adolescents from a total of 18 providers were placed in the project INTEGRATION for care and education. A questionnaire was sent to the specialists in charge, which was to be answered anonymously.

RESULTS

Ten of the eighteen questionnaires were returned.

Professional identity

There were four questions concerning the professional identity of the interviewed persons:

- What is the objective of your institution? – Youth welfare was mentioned four times, e.g. organizations for child and youth protection or advice bureaus for youths and families, communal council of guardianship was mentioned twice, officially appointed guardian once, social services twice, penal authority for young delinquents once (multiple answers possible).
- What is your position in the institution (profession)? – Six respondents are social workers, one of them in a leading position, one person calls himself a social advisor, also in a leading position, two persons act as presidents of a communal council.
- What is your basic training? – Five persons were trained as social workers, two as social pedagogues, usually in a higher professional school. Also mentioned as basic training were primary-school teacher, business woman/librarian.
- Have you been trained in systemic therapy (family therapy) and advice? If yes, where and by whom? – Five persons answered yes, concerning training and further education in institutions in Switzerland. Four persons have not attended any of these courses.

Answers concerning the cooperation and efficiency of the offered services of the project INTEGRATIO

The first five questions could be answered by ticking the appropriate box out of a scale of five (between 'excellent' and 'bad', between 'absolutely' and 'not at all'), the further questions were formulated as open questions. Each question also offered the heading 'your comment'.

Aspects	Excellent / absolutely	Good / to a large extent	Partly / not good	Not at all / bad
Offered services ¹	5	5	0	0
Professional competence of specialists involved	4	6	0	0
Cooperation with relevant persons	7	3	0	0
Expectations fulfilled? ²	4	5	1	0
Systemic work ³	4	5	1	0

¹ In most cases, the question was not commented any further. One comment read shortly and concisely: "sound, committed, client-oriented".

² Remark with one answer: "The placement had to be terminated prematurely for financial reasons".

³ One person answering with 'absolutely' (n = 4) added: "View of a non-specialist woman". Another person answering 'to a large extent' (n = 5) remarks somewhat vaguely: "The existing system often does not allow systemic work". "A more comprehensive and at the same time precise statement on the term 'systemic' comes from a provider who has answered the question on the systemic way of working with 'to a large extent': 'Systemic' has become a term for many things. Today, nobody would dare to say about him- or herself not to work systemically. Everybody sums up something slightly different under this term".

Open questions

1. What do you think of the community-related concept with partner families in Eggiwil?

The answers to this open question were quite varied. Some comments:

- Very good solution for the development of children and adolescents.
- In any case, makes sense because of the cooperation, efficiency and continuity.
- Good. Not applicable in every case; difficult if parents do not support it.
- Useful and valuable institution that covers the needs and requirements of all parties involved.
- Two birds with one stone: Help for children and adolescents in need and strengthening of regional development.

2. Does the project INTEGRATION offer services with therapeutic character from your point of view?

If yes, what does it consist of? Some comments:

- Every placement has a therapeutic character in a wider sense. Therefore, the project INTEGRATION also offers measures that help to rectify misguided developments or compensate for instable, missing or resource-deficient familiar or social surroundings of children and adolescents.

- Distance from the city, nature, contact with animals, quietness and professional support in crises.
- Opportunity for, in some cases, heavily encumbered children/adolescents to experience stability, positive values and loving care in an intact family and in natural environments.
- Possibility of retreating, finding peace, far away from the enticements and diversions of the original surroundings, getting to know nature and different family patterns.
- The most important 'therapeutic' effect occurs when children and adolescents experience that they are able to do things and that they are valued as persons.
- Yes, by the well-founded professional systemic work with the system child-family-network of support.
- No. In the first place, for my part the project INTEGRATION contains instruction and support in everyday situations.

3. *Do you think the cooperation with a psychiatrist is sensible?*

Some comments:

- The pedagogic framework does not replace the cooperation with a specialist from psychiatry.
- For support and as a branch of knowledge to be called upon in situations of crisis. As an 'insurance' against possible allegations of not having acted adequately.
- In 'my' specific case the cooperation was very helpful and made sense, because of the medicinal treatment alone, which was in turn not only applied generally but aimed at and adapted to the specific case since the psychiatrist was involved in the whole placement process. Apart from the medication, his professional advice and judgment were helpful for the partner family as well as the whole support system.
- I regard interdisciplinary cooperation in principle to be sensible in every process of placement, if not even a necessary prerequisite for the process to be as successful as ever possible.

4. *Compared to similar services: how does the project INTEGRATION distinguish itself?*

Some comments:

- Very flexible in situations of crisis.
- Individual and 'tailor-made' care and support.
- Persistence, highly professional support, efficiency.
- INTEGRATION is different, because regional development is envisaged consciously and in a good manner.
- Decisive difference in the fact that just this interdisciplinary cooperation of the support system (social pedagogue, social worker, teacher, psychiatrist, foster family, project management, parents) is put down in the concept and thereby guarantees commitment and continuity supporting the process.

- Participation of the community.

5. *Criticism, suggestions, wishes*

- The partner family sometimes reaches its limits quickly with very difficult adolescents.
- Problems with the height of the daily rates: possible 'refrain from future placements' for this reason.
- Decreasing costs for long-term placements which work 'well'.
- Institution of a continuous, standardized flow of information concerning the placements and mutations.



DISCUSSION

The first four questions were almost unanimously answered positively or very positively. There was only one answer 'partly', referring to the question concerning the aims being reached.

The community-related concept with partner families of Eggiwil (question 6) is generally judged as being valuable, sound, helpful and efficient. The implied observation that this concept can only work well if the original family stands behind the placement without reservation is realistic; rivalry between the familial systems has to be taken into account in any case. It appears interesting to us how precisely the (absolutely intended) 'side effect' of the communal and regional development has been perceived in more than one comment.

The question concerning the therapeutic character of the project is answered ambiguously. There is a wide range of answers from the statement that "every placement has a therapeutic character" to the remark that "well-founded professional

systemic work" was done, right to the negative comments ("instruction and support in everyday situations"). In this connection, the question arises what 'therapeutic' means. Simply everything that helps? Or that heals? Or can we only talk about therapy if a trained therapist works personally with the client? Helpful and healing is the offered care of the project INTEGRATION in many cases, the latter situation only applies in exceptional situations. The cooperative and well established interaction of all parties involved in the project is considered effective, i.e., the partner as well as (if present) the original families, project management and providers, teachers, psychiatrist, etc.

The cooperation with a psychiatrist in the project INTEGRATION (question 8) is more or less considered sensible without reservations.

When the project INTEGRATION is compared with other institutions of similar objectives, not only the high quality of the service thanks to flexibility, resistance to crises, continuity, professional support, etc. is mentioned, but again the "inclusive set-out of thinking and acting" which confers to the widespread interdisciplinary and rooting of the project in the community and in the region.

There were very few answers to the question regarding points of criticism concerning the way of working in the project. However, one of the few remarks hit an important point, namely the capacity of the farming families in the face of very difficult adolescents. Despite an improvement of this capacity in the course of the project, the project management has drawn its conclusions from the gained experiences and, among other measures, initiated a training course over several years suited to the possibilities of the farming families.

Connected with the question regarding wishes, suggestions or propositions for improvement of the service, the topic of costs is inevitable. Of course, the supporting association and the management of the project INTEGRATION are continuously discussing the relation between supply and demand, investment and return – discussions which increasingly lead to 'hot heads' taking into account the current financial situation and policy of the public sector.

CONCLUSION AND RECOMMENDATION

The results of the inquiry are very satisfying for all involved in the INTEGRATION project but also raise several questions that have to be answered. The answers will be considered in the new edition of the detailed concept, which is under development at the moment. The terms 'systemic' and 'therapeutic' need to be defined more precisely within the concept. Some thought should again be given to the words 'INTEGRATION' (what or who is integrated = brought together, united, into what or with what?) and 'partner family' (partnership between whom?), words that have become current in the meantime but which have been given insufficient thought.

SOCIALIZATION UNDER CHANGED CONDITIONS – THE EFFECT FACTORS IN THE NETWORK INTEGRATION

The method of this study is based on empirical social research. What is it that contributes to the positive development of children and adolescents? – Socio-pedagogic and system-therapeutic influencing by:

1. "Encadrement du développement" (Luc Kaufmann): The rural, often multi-generational family offers through its clear, unambiguous and comprehensible structure a frame that communicates a firm hold and possibilities of orientation (transparent patterns of relationships, limits instead of boundlessness, obligation instead of chaos, stability, continuity and reliability) with a generous amount of time, space and care.
2. Maxims of education that support this obligation and limitation by means of clear settlements, agreements, rules of the game as well as limitation of consumption, whereby the families can in most cases rely on the experience from the successful education of their own children. All this not without regarding the preservation of values from the original social surroundings.
3. Reduction of complexity by controlling the consumption of TV, video, cellular phone, personal computer and internet, games, music and entertainment as well as relations instead of a flood of information; furthermore, absolute prohibition of drugs and alcohol and strictly controlled smoking regulations for older adolescents.
4. Proximity to nature offers the possibility of experiencing the basics of life and asks for respect for the creature. It effectuates, together with other factors mentioned here, a sustainable emotional relaxation (Luc Ciompi).
5. Physical work as a corrective to the head-dominated life in the city; daily recurring and successfully fulfilled practical activities give recognition and raise self-esteem.
6. Quietness for growth: Appeasing influence on the behaviour of children and adolescents who were conspicuous by hyper-activity and disturbances of attention by experiencing slowness, successiveness and contemplation of the country life in a place away from centres, in surroundings without strain and irritation compared to the hectic of urban surroundings.
7. Resource-oriented: The partner families appeal more to the capacities of the children than to their deficits, which is supported actively from the specialists' side.
8. Alternative values: The children and adolescents get to know another way of living, which gives the opportunity of choice for their future life.
9. Semi-professionalism: The partner families experience a permanent socio-pedagogic and system-therapeutic coaching, but also training parallel to work for several years. Therein lies the fundamental difference of this setting from the traditional placing of children in foster families. With this service they offer a manifold social therapy which is meant to entice the children and adolescents to the highest possible self-efficiency.

10. Positive intensification of the commitment of the partner families by close cooperation at events of information and further education as well as in circles for quality management within the INTEGRATION project.
11. Protection and security for both the partner and original family, by the neutral and external professional position of the psychiatrist and system therapist.
12. Additional security and support of all parties involved in the project by close multidisciplinary cooperation and backing through the political authorities of the responsible communities and regions.

THE FUTURE OF FARMING FOR HEALTH ACTIVITIES IN SWITZERLAND

The ongoing structural change in the agricultural sector leads to an increasing demand for new employment. In the future, farmer families will depend more and more on patterns of an additional income. FH activities allow the farmers to generate this additional income on the farm itself, which is a big convenience for all. Farm work can be easily combined with social work and other forms of care and support. On the other side the clients can gain insight into systems which for them were weird and unfamiliar before.

Also in Switzerland there is a growing demand for such activities. The structures are not yet available in detail, particularly the network between the many private institutions and the public departments is in early stages only. All the more it is very promising that the State Secretariat for Economic Affairs (seco) is supporting a project in the field of FH activities, not only morally but also financially. It will be a challenge and an important task to improve on this networking and to combine all forces around FH. Another important domain is the training and further education of the involved farmer families. It is and will be essential for the quality of FH that caretakers have a broad knowledge of social aspects and that they can rely on professional supervision. Another future task in Switzerland will be to bring together all departments concerned, such as Health, Education, Welfare, Society, Economy, Ecology, Agriculture, Land Use Planning and others. The activities in The Netherlands will act as an important catalyst for the ongoing process in FH in Switzerland!

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CHAPTER 17

FARMING FOR HEALTH IN AUSTRIA

Farms, horticultural therapy, animal-assisted therapy

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Abstract: In Austria there are many different kinds of projects in the field of horticulture, farms, gardens, hospitals, care institutions and private initiatives. It is remarkable that the last ten years have brought developments and reformatory efforts to traditional institutions. Simultaneously, associations were founded to start new projects and to work together with organizations for people with various handicaps, university institutions and farm associations.

Keywords: agricultural integration; extra-asylum care; care farms; animal-assisted pedagogics; occupational therapy; mentally disabled

INTRODUCTION

Elements of farming for health in Austria are agricultural integration schemes, horticultural therapy, and animal-assisted therapy. There are a number of agricultural integration schemes for mentally disabled people and psychiatric clients. We estimate that the total number of organizations dealing with such schemes is about 20. The number of individual units run by these organizations is probably more than 250. Farming and gardening constitute considerable components of work-therapy programmes. Animal-assisted therapy schemes and horticultural therapy projects also exist; data about number and type have not been investigated yet. Most of the institutions can be found in the northern, eastern and southern parts of Austria. The number is slightly increasing despite serious administrative and bureaucratic challenges. The problem is weak support by authorities and lack of information and cooperation.

This chapter describes different classes of agricultural integration schemes existing in Austria, horticultural therapy and projects in horticultural therapy, and animal-assisted therapy.

FARMING FOR HEALTH – A SOCIOLOGICAL APPROACH: EXTRA-ASYLUM INTEGRATION SCHEMES FOR MENTALLY DISABLED IN AGRICULTURE AND HORTICULTURE

Over all countries, mentally disabled persons – being among the weakest members of society – were particularly subject to the economic cycle of agricultural production. The attitude towards mentally disabled changed with changing living conditions and according to the progress of economic development and industrialization. Whereas in pre-capitalist rural communities it was insignificant whether one could read or write, people with learning difficulties later failed to meet the demands of society and got stigmatized. As a matter of fact, the sovereignty of mentally disabled persons diminished gradually. The 20th century saw the transition from the extended family to the nuclear family, especially in rural districts. Whereas there used to be plenty of people to care for the disabled within the extended family, this care has become virtually impossible within the nuclear family. Due to traditional role models women were and are most likely to look after the old and disabled, which added to the physical and emotional strain of agricultural work, especially in part-time farming. Besides, the mentally disabled themselves got deprived of the security they needed since there is usually nobody they can relate to in a modern nuclear family. In many cases they were sent to mental hospitals and excluded from society.

New solutions and strategies to implement an optimal integration into society have to be developed. Starting from the assumption that for various reasons the closure of large mental hospitals and the creation of an extended extra-asylum care system is generally desirable, the implication of such a decision must nevertheless be taken into account. Traditional forms of mental sanatoriums, asylums, hospitals or psychiatric clinics with closed and occasionally open wards are still the rule. Extra-asylum care institutions are still the exception. They run a farm and/or a (nursery) garden for downright economic motives. Yet integration models for mentally disabled people in agriculture can look back on a long tradition. While agricultural work originally had the function to segregate presumably undesired persons from society, the desire to cure the diseased began to gain ground. This was the time of the revolutionary discovery of the somatic causes of mental disorder (Meyer 1973; Wiesinger 1991b; 1991a).

Classification of agricultural care institutions

Various aspects must be taken into account when classifying the contemporary agricultural care institutions in Austria: the aim of the care, organizational peculiarities, differing social therapeutic doctrines and, last but not least, the social and legal status granted to the person in need of care.

a) *Traditional-household-based schemes (at about 100 locations)*

Due to sweeping changes in traditional structures and value systems traces of this model can still be found. While in most cases the disabled are members of the farmer's family we occasionally come across disabled people who are more distant relatives or friends of the family they live with. One of the major problems the families face is the organization of social and medical care.

b) *Sheltered places of work and sheltered workshops (at about 10 locations)*

In several institutions mentally disabled persons are looked after under the legal heading of a 'sheltered workplace' or a 'sheltered workshop'. In these institutions the disabled workers are required to meet at least 50% of the performance quota laid down for the able-bodied. The provincial laws stipulate that the difference between the actual work performance and the wages guaranteed by collective agreement be paid to the sheltered institution. This opportunity to receive state supplements by creating a sheltered place of work can naturally be extended to agricultural enterprises if they register their disabled labourers with the employment office and if they guarantee to pay the wages agreed upon by the social partners. The disabled people generally feel at ease provided that a pleasant atmosphere is created. The community of people with similar fates considerably contributes to generating a spirit of solidarity and togetherness and to make the social environment less threatening.

c) *Apprentice farms (at about 10 locations)*

Agricultural apprentice farms are special integration schemes which somewhat fall out of the legal framework. The emphasis is on teaching young mentally disabled persons skills in the fields of agriculture, horticulture or housekeeping to encourage their future reintegration into normal life. These institutions also have the explicit goal of (re)integration into the primary (or secondary) labour market. In contrast to sheltered workshops, apprentice farms are regarded to foster (re)integration into the common labour market as soon as the young disabled people will have acquired enough knowledge and skills.

d) *Nursing places and occupational therapy (at about 150 locations)*

These institutions provide accommodation and care to persons who are too severely disabled to meet the minimum requirement of sheltered work. These are mainly farms or sorts of institutions dealing with agricultural work. A prerequisite is to keep certain care standards guaranteeing that the disabled are treated and looked after properly. So persons who run agricultural nursing places need either special training or they are obliged to employ professional employees. The government is paying daily care rates for the nursing.

Psychiatric and multiply handicapped are present in all of the groups, but mentally disabled are prevailing in groups b and c. Occupational therapy and nursing places (d) are basically financed by the federal care insurance scheme, which was introduced in 1993. The sheltered places of work and sheltered workshops (b) are financed by the provincial governments (Länder). The farmers get paid a maximum of 800 - 1000 Euros a month per client.

Agricultural and horticultural integration schemes can also be classified according to ideological characteristics. Anthroposophical farming and village communities play a considerable role. Their members commit themselves to

creating close ties between 'normal' and disabled people by allowing the latter to participate in agricultural and garden work. Strong personal motives and the dedication of the nursing staff, whose unshaken ideology helps them to bear the burden of caring for the disabled, account for the undisputed social and educational success of these integration projects.

To sum up, one can say that extra-asylum systems in agriculture should undoubtedly lead to empowerment of the mentally disabled, grant them more freedom and autonomy and liberate them from the ghetto life in psychiatric clinics, which would be the precondition for a successful professional and social (re)integration. However, the danger of hospitalization and retardation within an integrated-care institution can only be counteracted if one succeeds in creating a pleasant atmosphere and close affinities with household members or workmates.

A step towards solving the predicament of the mentally disabled in Austria would be a general psychiatric reform, which could combine clinical, out-patient and extra-asylum care. This requires the creation of a network of various extra-asylum institutions as well as the development of psychiatric care. This should go hand in hand with the opening and democratization of clinics along with an increased efficiency in favour of the disabled. Governmental support for independent pilot projects should also be taken into consideration. Since the social and legal protection of incapacitated people plays a pivotal role, efforts to develop the psycho-social services and organizations providing legal guardianship should be stepped up and subsidized by the authorities in charge. In addition, temporary flats and 'training communities' should be made better use of in the future. Supporting measures for a long-term development of agricultural integration models under the auspices of 'open psychiatry' will only succeed if they coincide with a thorough reform of the general psychiatry.

ANIMAL-ASSISTED PEDAGOGICS AND THERAPY AT FARMS: RESULTS OF A RESEARCH PROJECT ON ITS RELEVANCE FOR SOCIETY AND AGRICULTURE

There is big demand for animal-assisted therapy (AAT) and pedagogics in Austria. Clients are children with development disabilities or learning difficulties, people with traumatic brain injuries, amputations, mental disorder, chronic illness, alcohol abuse or dependence, stroke survivors and socially disadvantaged people.

The use of horses, dogs, guinea pigs, rabbits and tortoises is more or less known, new in Austria is the use of cattle, goats and pigs. At the 2nd International Symposium about AAT in Vienna in October 2004, DI Silke Scholl (project leader, Oesterreichisches Kuratorium für Landtechnik und Landentwicklung) presented the project 'Animal-assisted pedagogics and therapy at farms', 2003 - 2005. It is a project of the Landwirtschaftskammer Oberoesterreich, managed by Mag. Helmut Eiselsberg, supported by the Ministry of Agriculture and Forestry, Environment and Water Supply.

Modules are:

1. Basic research (benefits for agriculture, requirements)
2. Pilot project
3. Education of farmers
4. Public relationship.

The project explores the use of farm animals within animal-assisted pedagogics and therapy on two places with different clients:

- youth and adult people, deaf and with different handicaps (Lebenswelt Schenkenfelden),
- children with social problems (on a farm).

Goals of the research project are to show:

- how to help this group of persons, which positive effects, developments and improvements can be pointed out;
- which kind of domestic cattle (kind, race) is suitable in particular;
- the dimension, how using farm animals for therapy contributes to the income of farmers;
- which requirements have to be met by the farm;
- which criteria have to be met by the animals;
- what would be the best way to educate animals;
- which kind of care is meaningful: short-term or long-term care

Within this concept a course of instruction for farms is developed, named 'Animal-assisted pedagogics and therapy in Austria'. Advanced training, information and advice are scheduled.

The hypothesis is that animals should help to:

- give love and safety to children who have lost their parents or whose parents are not able to care for them;
- develop social competence;
- improve the situation of difficulties caused by troubles of concentration and behaviour (aggression, seclusion ...);
- motivate to solve conflicts in a positive way;
- improve the children's capability of movement;
- attend the children on their way to gain sovereignty and self reliance;
- support to find a positive view of a meaningful life;
- experience safety, continuity and reliability in relationships;
- integrate into society.

Project progress 2003

The focal point in 2003: goats for people with disabilities.

The project 'Lebenswelt Schenkenfelden' was founded in 2003. The target group consists of 15 deaf, multiply disabled persons. Ten goats were trained for three months in preparation for the special mission. The results so far are promising.

During contact with goats the clients showed positive effects such as: increased concentration, higher attention and extensive moving activities. Most clients showed intensive fun and joyfulness – which is of great significance for people in a sad mood. The following long-term effects were observed: calming down when quarrel arises and increasing readiness for motion.

Project progress 2004

The focal point in 2004; cattle and pigs for children with social difficulties.

Since April 2004 eight children have attended animal-assisted therapy and pedagogics in 'Bioerlebnis Norbertinum'. The programme involves: feeding, fondling, caring, playing with the animals, and individual therapeutic interventions, depending on the children's needs. Cattle and pigs had to undergo intensive training to offer a high security level. Results until now indicate that aggressive children calmed down; they stopped running and talking permanently. The children began to keep an eye on the animals, to snuggle up to them, to be busy with them. As hectic behaviour drives away the animals, the children learned to move more slowly and gently.

Project progress 2005

The 'Lebenswelt Schenkenfelden' focal point for 2005 is taking over responsibility.¹

HORTICULTURAL THERAPY IN AUSTRIA

Historically, farming and gardening constituted important components of work-therapy programmes operating in mental institutions. The main orientation was on food production. Since the late 1970s there was a paradigm shift towards programmes providing more positive, value-added and reinforcing experiences. Horticultural therapy (HT) has been developed over the last ten years as a special domain in health care. Today therapeutic horticulture is mostly used in hospitals, rehabilitation centres, nursing homes, vocational training institutions, schools, day centres, farms and nursery gardens. International contacts with The Netherlands, Great Britain, Japan, USA and Germany helped to establish an Austrian interdisciplinary network. Reports on projects, workshops and annual presentations at the Vienna International Geriatric Congress led to increasing interest in HT, new projects were established and existing projects became known. In 2002, the first international congress on HT took place in Vienna, organized by the Austrian Association of Horticulture to celebrate its 175th anniversary. From then on, to support the development of HT in Austria, two conferences each year bring together a young and interested audience. Because of the rush for education in HT, an interdisciplinary working team is developing a curriculum at university level.

Occupational therapists have been trained in HT as a therapeutic medium for the last ten years. The awareness of its versatility within OT is evident in many new

projects and through increased interdisciplinary cooperation. The aim of the lectures is to make students:

1. sensitive to the place and the time of the specific therapeutic situation, when HT could especially be applied;
2. convinced and enthusiastic through their own experience and testing; and
3. prepared by gaining knowledge and information.

Since a few years, the University of Natural Resources and Applied Life Sciences in Vienna has offered lectures in HT for landscape architects. HT is well known at schools for agriculture, and special lectures have been planned for 2005. To compile all these developments, mental support and exchange of knowledge in HT, medical and social care and animal-assisted therapy will be of practical value in the future.

Horticulture as an intervention medium in occupational therapy

Horticulture is a unique kind of treatment medium. It entails the use of living material, thus paralleling human growth and development. Horticulture is an ongoing occupation. If used appropriately, it can be therapeutic. It creates fun and enjoyment as well as social and recreational opportunities for all ages (Gibson 1996).

Nature engages all of our senses, fully and simultaneously: combining sight, sound, textures, form, colours and patterns, fragrance and taste. It has infinite variety and complexity: the dimensions of space, perspective of time, seasons, water, light, shadow and contrast, heat and cold. Therapeutic benefits of nature can be enhanced through the design and use of gardens. Design alone is not sufficient to make a garden therapeutic. It needs goal-directed activity, based on a thorough understanding of the needs and abilities of the people who use the gardens. Therapeutic work in a stress-reducing environment helps individuals achieve a sense of personal accomplishment, productivity and self-reliance, encouraging the learning process by stimulating all senses.

According to occupational therapy (OT), being active is a profound human need. Hence it is obvious to include horticulture, because it was an important basis for developing OT. Individually adapted activities are used for therapy in completely different situations: mentally ill, patients with physical, cognitive, psychological and social problems. Therefore OT can be found in most fields of medicine.

The Australian occupational therapists Judy Ranka and Christine Chaporow have developed a model: capacity of action, subdivided into four groups: a) perception, b) recall, c) plan, d) performance – ‘arousal’ – seen to be of overriding importance. This point of view outlines horticulture as a process of working therapy. The basic arousal of a person is an important determinant. It tells us how much a person is able to perceive from his own surroundings. This also includes the individual level of being able to learn and being efficient. The effect of horticulture is twofold: a stimulating and a stabilizing one.

The terms include:

- a) perception: keeping attention, alternating parts of a task, distinguishing between a task and the surroundings, perceiving similarities and differences;
- b) recall: recognizing and adjoining impressions, acknowledgment of objects on their use, duration of actions, remembering sequences of actions;
- c) plan: defining a suitable aim, developing own ideas, realizing difficulties, changing and adopting plans, reconsidering issues; and
- d) performance: fine/gross motor skills, coordination of the whole body, adaptations and aids, social aspects of gardening.

OT assesses, together with the client, where future development and support are needed and desired. Depending on the therapeutic aims suitable tasks and duties are chosen and carried out together. It depends on the case, the difficulties and the resources, at which point (a,b,c,d) the therapy is started. Thus Horticulture within OT represents an ideal combination, together with a team of other therapists, gardeners, teachers, doctors. It is the ability to create one's own surroundings, to work with nature resulting into change, which strengthens and supports the healing process.

CASE DESCRIPTION

Mrs K., age 59

Background: MS (multiple sclerosis), worked at the revenue office until her early retirement six years ago, removal to the care unit of a geriatric centre two years ago.

Physical symptoms: paraplegia, sensory loss, cognitive and memory problems at times, dysarthria affects the ability to speak.

Psychological implications: mood swings, low self-esteem, social withdrawal.

Goals of therapy

- to improve bilateral integration of upper extremities and eye-hand coordination;
- to increase dynamic sitting balance;
- to increase self-esteem and confidence by trying new activities (cognitive and social stimulation).

Horticultural therapy programme

- meeting once per week one hour;
- smelling well-known plants to assess the personal experience and interest, learning to know each other;
- creating lavender bags (tissue techniques / put lavender into bags / tie bows);
- studying a book about lavender during the following weeks, talk about it;
- visiting the unit's garden to harvest lavender there and dry it;
- picking out and cleansing it;
- taking part in the unit's gardening group next season.

The way in which to offer each part of activity forms the heart of occupational therapy: step by step, using the material to stimulate all senses, incorporating fine

and gross motor skills, supporting motivation, the ability to make decisions, looking forward to future.

Therapy results

The therapy in the day room proves to be of good value: there are few people after dinner, their interest in the therapeutic activities does not overcharge Mrs K. but supports social integration. Mrs K. discovered new motivation and thoughts to deal with during the whole week. Mrs K. is winning recognition by residents and staff, because natural material appeals to nearly everyone's interest. The consciousness of bearing increases by using especially the upper extremities. This must be seen as very important in supporting independence in daily-life activities (hygiene, handling of the wheelchair, meals) as far as possible.

INTERESTING INITIATIVES AND PROJECTS

Garden and therapy – new ways in a geriatric centre of Vienna

The 'Geriatric Centre Wienerwald' (GZW) is a very traditional nursing home founded about 100 years ago, the largest of Vienna's nursing homes. There is a wide green space around the houses which is planned to be used much more by all people living and working there. Therapeutic activities in the garden as well as in animal-assisted therapy were established many years ago. In 2006 a third, interdisciplinary domain will be realized: the joining of a long-term-care unit for patients with dementia with children of a kindergarten group. This will be the first attempt of such a combination in Austria.

The therapy garden

This was established in 2001 after a preparation period of three years. Raised beds and an easily accessible park offer new possibilities for patients, care givers, therapists, relatives, children and visitors. First research analysis shows the intense need to escape the care situation which is perceived as an enormous restriction. Staff have noticed the huge potential that plants have in encouraging relationship between old and young and between nursed people of different ethnic groups. With regard to therapy the new garden offers new perspectives for occupational therapy, physical therapy and psychological care.

Animal-assisted therapy

For more than 15 years animal-assisted therapy has been offered. In addition to the professional teams there are a lot of care givers who enrich the everyday life at their units by bringing in their own pets. In this way better access to patients can be achieved and necessary therapies are made possible. Animal-assisted therapy can be a link to nature and an entrance into the therapy garden. The animals may also come to the bedside or even into bed depending on the circumstances.

Children – the kindergarten

Recently, the children of the staff's kindergarten were involved more intensively – with encouraging results. These children represent the diverse nationalities and cultures as do their parents. They learn to know how to care for the patients with dementia and how to cope with them, thus closing an often talked-about 'gap between generations'.

Goals

- patients: higher quality of life
- relatives: easier integration and more confidence
- children: encouragement of social awareness
- staff: more enthusiasm in working in the care profession, better interdisciplinary collaboration
- employer: less fluctuation / lower costs / fewer complaints / better image
- society: change one's view and new esteem of very old people, social integration.

Results

- the promotion of personal meeting of different cultures and diverse groups of professions
- social integration and generation solidarity
- possibility for young and old people to meet
- reduction of stress and promotion of psychological hygiene
- encouragement of confidence and tolerance through activities of pleasure
- therapeutic use of activities appealing to all senses and emotions
- facilitation to talk about the past by doing familiar activities
- reduction of depression, negativism and apathy
- tradition of intrinsic values passing on knowledge and encouragement.

There is a working partnership with the following institutions:

- Austrian Association of Horticulture, www.oeg.or.at
- HBLA Schönbrunn (school)
- University of Natural Resources and Applied Life Sciences, www.boku.ac.at
- Community of Vienna
- OT Academy of Baden,

as well as cooperation with therapeutic institutions in Austria and abroad.

The project of Perg²

Start: 1996, opening 1998

Location: district of Perg, Upper Austria

Members: 13 farm families (association)

Each farm has set up two or three apartments, built without barriers, 40-70m². One member of the family guarantees qualified care, being educated as 'professional carer' for old people (minimum: 1000 hours). She/he is employed by the Red Cross.

The seniors enter into tenancy on agreement lease with the farm family and into a care tenancy with the Social Welfare Association. This includes the incorporation of a 'distress call' as well as periodical counsel by the regional leader of the Red Cross unit (Schober 2001; Scholl 1998).

Benefits for both farmers and seniors are:

Farmers: additional income by lease, farm-shop, services, employment, work at home, use of empty rooms, more chance for the following generation to take over the farm, preservation of the village structure.

Seniors:

- individuality: personal rhythm of the day can be kept, apartment arranged to suit personal need
- activity: motivation to be independent, distraction, meaningful occupation and use of time
- safety: care tenancy, professional education of the care giver, apartment without barriers
- contact: time to speak with each other, various generations will come together, beloved pets are welcome, garden and natural surrounding.

Emmaus City Farm³

City of St. Pölten, since 1997. The Emmaus City Farm is a social-therapeutic working team for people who have got into trouble: detention, homelessness, alcoholism, people with diverse handicaps and refugees.

Aims

- social training through joint responsibility, regaining quality of life and dignity
- increasing technical, social and daily-life activity competency
- stabilization and improvement of disposition and physical condition
- integration into the labour market.

Domains

- job training
- employment therapy.

Offer

- a varied extensive programme to prepare people ('guests') for working life
- competence and efficiency in a caring atmosphere.

Employees

- full-time (4), part-time (2), social worker (1).

Participants

- 24 guests.

Funding

The Employment Service Centre (AMS) supports four transitional working places, the Social Welfare Office (NÖGUS) supports seven unlimited therapeutic places, the European Social Fund, charity.

Activities

Maintenance of gardens (private, firms, communities), hibernation of potted plants, cultivation of vegetables, fruits and herbs for own use and subscribed baskets, the community kitchen (meals and preparation of own products), creative workshops, office services.

Horticulture is considered to be the heart of the therapeutic process, because it requires love, attention (plants, animals, people), sense of responsibility, motivation, determination, the ability to cope with loss, patience and confidence. Daily intensive relationship with nature and the accomplishment of tasks and problems arising in the working process: it allows development of both the individual and the team as a whole. It is the cultivation of vegetables and fruits, from seed to harvest – within a limited space of time – which is so rewarding for the guests. In turn, courage and confidence are built up which can be transferred to other areas of working and private live.

Farm integration projects: Liebenau (1998) and Gilgenberg (2000) – a possibility for life, rehabilitation and integration for people with mental health diseases⁴

These two projects in Upper Austria provide accommodation for people who – because of negative physical and/or psychological experiences – have very low self-esteem and lack of confidence in daily life. This has led to an inability of obtaining a secure social footing. Through encouraging a dialogue between clients and nature by means of a confrontation with the method of biological farming, a new quality of life is hoped to be provided and in turn a new sense of living for the clients.

Living accommodation, work, culture, education and free time are considered to be factors that can motivate – experienced within the structure of the year. The farm offers 12–15 people a new way of life with new chances in culture, jobs and education. Special characteristics are: small, individual units, versatility, reference to nature, far-reaching self-sufficiency, sense; object- and relationship-orientated, integrated in the local community.

Users

People with a chronic alcohol problem as well as those with an initial mental-health problem as cause. They can stay for a rehabilitation period or as long-time residents. Abstinently living people are professionally supported and assisted. Non-abstinent residents are also integrated and treated according to their problems.

Team

Medical care, social care, farming and handicraft. A combination of caring for cattle and biological farming merge into a balanced psychological environment for the residents. 'Master nature' shows limits and possibilities. The farm and wood workshop add another dimension to possibilities for long winter evenings. One can even be given some sort of job to create useful objects which in turn give the residents the feeling that they are needed. Their confidence is built up.

Energy supply

By means of wood. Wood delivery to the central heating oven and the actual firing itself are experienced positively by the residents, are seen as meaningful and done with pleasure.

Sewage treatment plant

Built in cooperation with the University of Natural Resources and Applied Sciences.

Farm

7 hectares of agricultural land, 2-3 cows, 5-6 ewes, 20-30 hens, wood, garden, small livestock.

Funding

The government of Upper Austria, agencies for social insurance, AMU (Upper Austrian Programme for Employment), Upper Austrian Regional Health Insurance, regional districts and communities.

Development

The consequence of the movement towards treating people locally in Upper Austria is to develop more and more decentralized, district-orientated institutions within the psycho-social sector (Felix Diesenreither, project leader). The government of Upper Austria has ordered the realization of the projects by 'Pro Mente'.

Integration with the local services: Hof Schlüsslberg⁵

Accommodation and employment for people with special needs – Hof Schlüsslberg – was founded in 1963 and reopened in 1998 after restructuring. The rehabilitation centre is a model, integrated successfully into the regional farming structure.

Users

Forty-two people with special needs, who meet all requirements for full employment when supported accordingly (after compulsory education)

Aims

- a) To acquire important working skills, education in professional fields, support and stabilization;
- b) presentation of the farm and each of the staff members being reliable to the customers (communities and private clients).

Working areas

- maintenance of green spaces
- farming, stable (cows and pigs)
- disposal of biological refuse for making compost
- wood workshop and care of machines
- kitchen
- slaughterhouse
- occupational therapy
- market once a week ('Schmankerlmarkt')

Basic idea

The requirements of labour determine the contents of work; efficiency and profitability are considered. The entry into employment provides integration, juridical and social security. Integration is supported too by various possibilities to live: at the farm or in the surrounding area. Assistance at work includes the whole individual person. The workplaces and working areas are arranged organically.

FURTHER INTERESTING AND IMPORTANT PROJECTS AND ORGANIZATIONS

Psychiatric family care

140 patients are cared for in 100 host families, in close cooperation with the hospital, KAGES (organization unit of family care) and the host families.

Prim. Dr. B. Grössl

A – 8053 Graz, Wagner-Jauregg Platz 1

bernhard.groessler@lsf-graz.at

www.PFP.AT

ISOB (Interessengemeinschaft für soziale Betreuung)

More than 700 people are cared for in 35 institutions in Carinthia

Oa Dr. Alexander Kronfuss

A – 9500 Villach, Nikolaigasse 43

zpsr@lkh-vil.or.at

Otto Wagner Spital / Unit for Special Rehabilitation

Two of the offered workshops relate to gardening (work training, work therapy):

- Garden maintenance (20 ha park), two groups

- Vegetable garden with flowers and herbs (700 m²), realization of creative ideas of garden design: 15 patients

A – 1145 Wien, Baumgartner Höhe 1

www.wienkav.at/OWS

Michaeli Hof, F. Prenner

A - 8243 Pinggau, Pinkatalerstr. 10

Karl Schubert Haus (with: Breitenstein am Semmering and Mönichkirchen)

2870 Aspang, Mariensee 63

WEBSITES

www.gramastetten.at/neuigkeiten/2000/004theresiengut.htm

www.himmelschluesselhof.net

www.gin.at/gaertnerhof

RESEARCH

Research on HT, AAT and integration schemes in agriculture is still scarce in Austria. In 2004 the first dissertations on horticultural therapy were completed in Vienna and Innsbruck. The need for applied research is central in gaining recognition and acceptance. It includes a significant resource for advancing the practice of horticultural therapy, animal-assisted therapy, farms and the green space within the health-care system.

COOPERATION

There is interdisciplinary cooperation within the green space field – but especially at the personal level. At the level of institutions and organizations, the increasing amount of advanced training will have positive effects in future.

ORGANIZATIONS

The following organizations and associations will contribute to the further development and cooperation:

- Austrian Association of Horticulture (OEGG): www.oegg.or.at
- Association of Horticulture and Therapy Germany/Austria (GGuT), Maria Putz
- Working Team for Therapeutic Gardens: www.therapeutische-gaerten.at
- Dipl. Ing. S. Siedler, Dipl. Ing. Th. Loewy, Mag E. Bottesch
- Association of Austrian Occupational Therapists: www.ergotherapie.at
- Federal Institute for Less Favoured and Mountainous Areas: www.berggebiete.at
- Dr. G. Wiesinger (Ministry of Agriculture and Forestry, Environment and Water Supply)

- University of Natural Resources and Applied Life Sciences: www.ifl.boku.ac.at
- Animals as Therapy / Science and Education Centre: www.vu.ac.at
- Pro mente infirmis: www.promenteoee.at
- Oesterreichischer Zivilinvalidenverband: www.oeziv.at
- Lebenshilfe: www.lebenshilfe.at
- Caritas: www.caritas.at
- Diakonie: www.diakoniewerk.at

MAIN CHALLENGES

A range of very individual and specific projects have been developed within the field of farms, horticultural therapy and animal-assisted therapy. The main challenges are to determine their results scientifically and to reinforce cooperation between projects. Farms, horticultural therapy and animal-assisted therapy should build a joint network. Public authorities should play a major role in positioning these projects in the field of public health.

NOTES

¹ More and more detailed information:

www.presseclub.at; www.tierealtherapie.org
www.vu.ac.at

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CHAPTER 18

FARMING FOR HEALTH IN SLOVENIA

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Abstract. The agricultural situation and the social protection system in Slovenia are discussed first. Then, four typical patterns of the use of agriculture for therapeutic purposes are described (activities within the institutions, decentralization of the institutions, initiatives within the representative clients' organizations, and individual farmers' initiatives). Based on the results of the feasibility study at the national level a provisional SWOT matrix of health/care farming is drafted. Modelling and implementation of health/care farming have to be carried out with professional correctness by a multidisciplinary team (agronomists, social workers, economists, defectologists etc.) and with a great deal of social prudence. Relevant criteria, economic viability and quality of life of all involved have to be met. Therefore, the implementation of social services as a supplementary on-farm activity should be gradual and backed by building up partnerships between the participants: clients and farmers, while the role of the state has to be orientated to arranging and determining the scope of and the conditions for health/care farming.

Keywords: therapeutic agriculture; multifunctionality; social services; care farm; supplementary activity

INTRODUCTION

Slovenia declared independence from Yugoslavia in June 1991. Successful macroeconomic recovery and major progress towards international integration marked Slovenia's first decade of independence. Nowadays the GDP per capita on the purchasing-power parity basis is \$18,300 in a country with 2,011,473 inhabitants. In of the first half of 2004 it joined NATO and the EU.

Slovenia's development pattern has laid emphasis on services (64% of the total GDP) and manufacturing (33% of the total GDP). Agriculture presents low shares of the national income (3% of the total GDP), employment (4%), and foreign trade (4% of the total export and 9% of the total import). The active agricultural population amounts to 32,649 people (4% of the total active population).

Farming sector

Of the total area of 20,273 sq km, 30% is dedicated to agriculture while 63% is formed by wooded areas. Great varieties in climate, relief and soil types have determined five typical patterns of farming, adjusted to the regional conditions:

Alpine, Pre-alpine, Karstic, Pannonic and Mediterranean. This permits a wide diversification of agricultural production. However, about 70% of the total agricultural land has limited productive capacity due to unfavourable natural conditions together with rising costs and prices. Table 1 and 2 give some quantitative information about Slovenian agriculture.

Table 1. Agricultural land and labour, Slovenia, 2000 (Dermulc et al. 2002)

	<i>Total</i>	<i>Share of family farms (%)</i>
Total utilized agricultural area, ha	485 879	93.89
Total economic size of all agricultural holdings, ESU	402 804	85.14
Total agricultural labour	107 809	96.26

Table 2. Structure of family farms, Slovenia, 2000 (Statistical Office of the Republic of Slovenia 2004)

Utilized agricultural area (UAA)			Economic size (ESU)		
	<i>Number of farms</i>	<i>Structure (%)</i>		<i>Number of farms</i>	<i>Structure (%)</i>
Total	86 320	100.00	Total	86 336	100.00
< 2 ha UAA	22 997	26.64	< 2 ESU	40 708	47.15
2 - < 5 ha UAA	30 380	35.19	2 - < 4 ESU	22 673	26.26
5 - < 10 ha UAA	22 053	25.55	4 - < 8 ESU	13 900	16.10
>=10 ha UAA	10 890	12.62	>=8 ESU	9 055	10.49

86,000 Family farms with an average size of 5.3 ha of used agricultural land represent the largest part of agricultural resources. Only about 2.5% of them earn parity income per worker from agriculture (Kovačič and Udovč 2002). Furthermore, the employment preferences of farmers and their partners are outside the agricultural sector. However, a supplementary on-farm activity significantly increases the probability of on-farm employment for farmers but not for their partners (Juvančič 2002). The economic pressure from the increasing market competition leads to intensive marginalization of agricultural resources. The subsidies mitigate farmers' income problems to some extent (Rednak et al. 2002) but the solution lies in a higher efficiency of farming, and in particular in the diversification of the target markets. As services are the fastest growing sector of the economy, many farmers search for new opportunities for the use of agricultural resources in farm tourism, wood processing, maintenance of rural amenities etc. as supplementary on-farm activities.

The idea that farms might be included in the system of social services for people with disabilities is a complete novelty. Although the definition of supplementary

activities within the Agricultural Act (*Zakon, o kmetijstu* 2000) is rather wide, the decree on this subject (*Uredba o vrsti, obsegu in pogojih za opravljanje dopolnilnih dejavnosti na kmetiji* 2001) is stricter and does not provide room for such activities. This decree has to be changed in order to include care farming. Therefore, a proposal of such a system has to be drawn up as a precondition for further development of health/care farming on Slovene farms.

This raises the issue whether farmers are interested in starting such an activity or not. Exploratory research (Sojar 2003; Vadnal et al. 2004) on farmers' readiness to start health/care farming pointed out that there is a particular group of farmers who are willing to start this new activity: holders of smaller farms, aged 45 to 55 years, who used to be part-time farmers but became unemployed due to the reconstruction of the industry. At their age, they can hardly find a new job, and are obliged to make their living on the farm.

Social protection

The social security system in Slovenia includes unemployment compensation and assistance, health care and sickness benefits, family and maternity/parental benefits, social assistance, as well as old-age and disability pensions. The right to social security is related to employment. Social benefits and allowances are financed mainly from contributions paid by employers and employees. However, social assistance and family benefits are citizen-centred as well as means-tested. Social-security expenditures represent about 26% of the GDP (Vagac and Haulikova 2003). The Ministry of Labour, Family and Social Affairs is responsible for all policy making.

Significant changes have been made in all areas of social security in recent years. Special attention has been devoted to the protection of people with low incomes. Some of the important services provided by the social assistance are childcare, care for the elderly and care for other dependent family members.

In the past, there was a relatively well-developed institutional care for the elderly and others who could not care for themselves. In recent years, however, other, non-institutional forms of care have developed, above all home-help services. Home help is currently provided to 5,000 elderly people (almost 1.8% of all elderly people) and 400 people with disabilities. The providers of institutional care are old people's homes (mainly public), while the main providers of home help are local social-work centres. There are a limited number of special welfare institutions and centres for protection and training (Table 3 and 4).

Severely mentally and physically disabled adults, who are not in institutional care, get the right to a personal or family assistant, thereby easing the burden on family members. Family assistants can be registered unemployed people, people who have a part-time employment, people who are no longer on the labour market, or people who have moved from full-time to part-time employment. Family assistants have the right to payment in the form of a minimum income (in case of inactive or unemployed people) or to an amount equivalent to the payment they have

foregone through giving up their full-time job (in the case of people with part-time employment) (Ignjatović 2004).

Table 3. *Special welfare institutions and centres for protection and training, Slovenia, 1994-2003 (Statistical Office of the Republic of Slovenia 2004)*

Year	Special welfare institutions ¹			Centres for protection and training ²		
	Number	People in care		Number	People in care	
		All	Average per institution		All	Average per institution
1994	7	1 842	263	37	1 316	36
1995	6	1 602	267	39	1 427	37
1996	6	1 613	269	39	1 552	40
1997	7	1 702	243	39	1 648	42
1998	7	1 685	241	44	1 880	43
1999	7	1 679	240	44	1 947	44
2000	7	1 690	241	40	1 976	49
2001	7	1 713	245	43	2 158	50
2002	7	1 706	244	44	2 265	51
2003	7	1 697	242	45	2 463	55

¹ Special welfare institutions provide special forms of institutional care for mentally and physically handicapped adults

² Centres for protection and training provide special training and care for mentally and physically handicapped adults

Table 4. *People in care of special welfare institutions and state centres for protection and training by state of health – levels of handicap and/or degree of disability¹, 31 December 2003 (Statistical Office of the Republic of Slovenia 2004)*

Special welfare institutions	Number	Centres for protection and training	Number
All	1697	All	2463
Chronic mental illness	471	Moderate degree of mental disability	1560
Moderate, severe and profound degree of mental disability with additional mental problems	335	Moderate degree of mental disability with additional physical handicaps	327
Severely behaviourally and personally disturbed	228	Severe degree of mental disability with additional physical handicaps	272
Physical problems	205	Mild degree of mental disability with additional physical handicaps	160
Dementia	203	Mild degree of mental disability	34
Moderate degree of mental disability	132	Physical problems	32
Chronic alcohol-related psychoses	123	Head injury	78

¹ Mild degree of mental disability: IQ = 50-70; Moderate degree of mental disability: IQ = 35-50; Severe degree of mental disability: IQ = 25-35; Profound degree of mental disability: IQ = below 25

The role of the state in the area of social care in Slovenia is changing from ensuring the provision of public services to arranging and determining the scope of and the conditions for the provision of these services. Equal importance is devoted to the assurance of the necessary minimum standards and the supervision of the provision of these services. In the long term, privatization of the state assets that are used to provide public services is anticipated; it will be carried out wherever it would ensure greater rationalization while simultaneously adequately protecting the public interest.

However, the very first steps to be taken in this field are in compliance with the economic interpretation of privatization, as well as with the understanding of this phenomenon among social workers. Consequently, the transfer of production of services from public and/or state institutions to private ones was enabled (*Nacionalni program socialnega varstva do leta 2005* (NPSV) 2000). As the institutionalization of health/social care is the main pattern of relations between the political system and the health/social services, a deinstitutionalization seems to be the desired outcome. Since the sociological interpretation of the privatization (reorientation of social values and behaviour from collectivism to individualism) is put in the rear, the final outcome of the process is uncertain: whether the coalition of politicians and professional providers, with no influence from the users' part, will prevail over the coalition of providers and users or not (Rus 1990).

Mental-health care

Hospitals and asylums are the prevailing forms of the institutionalized mental-health care system, with exception of the widespread and easily accessible outpatient psychiatric clinics. The main Slovene mental-health problems are: high alcohol abuse, high suicidal index, increasing outpatient clinics visits and overcrowded hospitals (Švab 2003).

Regarding the care provided to patients with severe mental illness, the Slovene mental-health system can be characterized as follows (Švab and Tomori 2002):

- services for patients with severe mental illness are predominantly institutionalized;
- non-governmental organizations (NGOs), which provide social support, employment and housing are growing in number;
- there is no community psychiatry available;
- privatization of services is rapidly increasing; this does, however, not contribute to their outreach, the comprehensiveness of treatment and the registration of patients. These matters were better organized in the previous (socialist) system.

The psychosocial rehabilitation movement in the country plays a very important role in mental-health reform. Its main objective is to buffer the consequences of economically triggered de-institutionalization through the establishment of rehabilitation services with the involvement of the users in the process of reform.

Care for persons with mental disabilities

The Act on Social Security for Persons with Mental and Physical Disability (*Zakon o družbenem varstvu duševno in telesno prizadetih oseb* 1983) was introduced in 1983 and is still valid. According to this law, these persons are entitled to the status of invalids and are as such entitled to various kinds of care. It has also significantly contributed to their financial situation through the ratification of invalidity benefits and other types of help, as well as by granting care allowances to all persons older than 18 years having a mental disability.

Until 1960 providing help to persons with mental disability or persons with various mental illnesses, together with other social groups of clients had been imperative. This was reflected also in placing these clients into various old and abandoned castles or other inappropriate facilities. A big step forward was made in 1963 with the establishment of a parents' organization. Its contribution to the development of the integrity of care for the persons with mental disabilities and their families was of huge importance. The development of the first forms of care for persons with moderate and severe mental disability started between 1965 and 1975. The parents' organization itself was the founder of the first day-care centre in Ljubljana in 1965, providing protection and employment possibilities for adults with a disability. Introducing such day-care centres in other Slovenian towns accelerated the process of providing care for persons with a disability. In the period that followed, the integration and the formation of smaller groups located in the vicinity of hometowns became a priority issue as well. The qualitative changes led to the period of individualization, inclusion, normalization and integration in its broadest sense (Sožitje 2002).

According to the National Report on the Social Standing of Mentally Handicapped in Slovenia (Sožitje 2001), 55% of the adults (out of approximately 7,000) are unemployed and/or without proper occupation, while 83% of them have no access to permanent occupational training. The high unemployment rate of this population segment is mainly the result of the economic transition and the reconstruction of the manufacturing industry, which used to be the main provider of simple jobs. As all other categories of disabled people share the same fate, the rate of unemployment of the disabled in Slovenia is, relatively speaking, very high (Svet Evrope 1997).

Only recently, the new Act on Professional Rehabilitation and Employment of the Disabled (*Zakon o zaposlitveni rehabilitaciji in zaposlovanju invalidov* 2004) was ratified in order to increase their employment level and to improve their employment ability and social integration. The reorientation from a passive to an active policy is based on the profound institutional change and consists of a mix of measures (quotas, subsidized, supported and sheltered employment, etc.). The impact of these new possibilities on the normalization of the disabled citizens is to be assessed in the future.

ACTUAL SITUATION IN HEALTH/CARE FARMING

Horticultural and animal-assisted therapies have been an important part of the activity-based therapies in the early days of Slovene psychiatry (Kostnapfel 2004). However, they have been progressively replaced by other therapeutic activities, and nowadays they are not practiced any more. The same is true for the development of activity-based therapies for other target groups of patients and the disabled.

As health/care farming or horticultural and animal-assisted therapies are not in the interest of the professionals, few references on this subject can be found. Therefore, informal inquiries and fieldwork were needed to determine the actual situation in the field of health/care farming in Slovenia.

The search for information revealed that there are numerous, yet isolated cases of the use of agriculture for therapeutic purposes. They can be divided into four typical categories:

1. Activities within the institutions.
2. Decentralization of the institutions.
3. Initiatives within representative clients' organizations.
4. Individual initiatives of farmers.

At the moment only a qualitative description of the categories is possible. To gain better insight into the developments in this field, the institutions (Figure 1), the representative clients' organizations as well as the agricultural extension officers will be consulted through a special survey at the beginning of 2005.

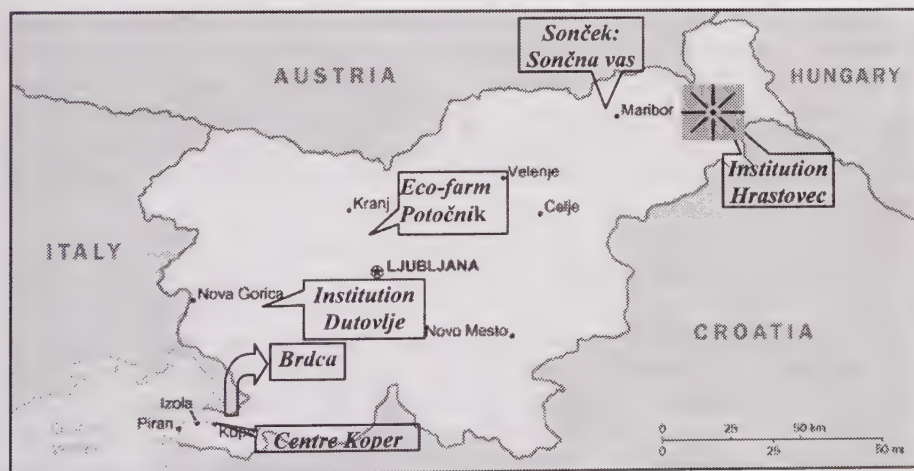


Figure 1. Map of the health/care-farming institutions in Slovenia

Activities within the institutions

Special welfare institution Dutovlje

When the institution was founded in 1985, the clients cultivated the two fields owned by the institution. They produced enough vegetables to make the institution self-sufficient in this sphere. They also maintained the surrounding park. However, the number of clients involved in this activity was rather low, from 5 to 15. Some of them showed interest in farming, others were encouraged by the therapists; some were capable of independent productive work and needed only initial instructions. Others needed more support from the instructors and were only capable of carrying out simple tasks (picking potatoes or carrying crops, baskets, tools etc.).

In the early days the clients of the institution originated from farms and rural communities, and they were therefore familiar with farm work. Nowadays, the majority of the clients have no experience with farm work as they are mainly of urban origin. Furthermore, the level of their disability is higher in comparison to the prior generations of clients.

In order to ensure a better quality of life of the clients, as well as a better use of all available resources within the institution, the programme *Living with nature* was launched recently (SVZ Dutovlje 2004). The programme consists of maintaining the surroundings (park, flower and healing gardens), and horse riding. As a sinkhole (funnel-shaped hole occurring in the Karstic region) that has been neglected for years is situated just in front of the institution, the reconstruction and maintenance of this landscape amenity is included in the programme.

Thirteen protégés, those with mental illness as well as those with mental disabilities, are included in the programme. Some of them have a very good hand at using tools, e.g. the scythe that demands a lot of skill and coordination of movement.

Scythes and sickles in the hands of clients have an additional meaning and/or significance. The use of these traditional farming tools disproves the traditional, still prevailing common opinion that 'madmen' are dangerous to themselves and to the others (Kostnapfel 2004).

Decentralization of the institutions

The institution for people with mental and nervous disorders Hrastovec

The institution was founded in 1948 as an asylum for both psychiatric patients and the mentally handicapped. The old, magnificent castle and its clients faced the first changes in the second half of the sixties. Nursing services and occupational therapies were introduced in the year 1965. Welfare workers arrived at the institution six years later, followed by physiotherapists and psychologists in 1976. Special education was introduced in 1981. Nowadays the institution hosts about 600 clients.

Hrastovec, which used to be notorious, is now undergoing the process of decentralization. The provision of supervised small dwelling communities in urban and rural environments is the preferred model. The members of the communities

with agricultural facilities are encouraged to farm. Three out of seven dwelling communities have such possibilities.

DC Jasmin was founded in October 2000. Although it lies in an urban environment, its members produce champignons and sell them to the institution at the market price. Vegetables produced in the garden serve their needs. Mushroom and vegetable production along with needlework keep nine members of the community and the supervisor busy. The farm Žiberce was bought; it started to operate as a dwelling community and as a health/care farm in April 2003. Four clients and the supervisor produce and sell vegetables and fruit. At the same time Rožengrunt farm began to operate in the same way. Five clients and three caretakers are stationed at the farm. Although the clients have profound disabilities, they are encouraged to keep the farm clean, to take care of small animals (chickens, rabbits) and to cultivate their vegetable garden.

In the case of this institution the programme of health/care farming is in its first stage. Although there is no representative evaluation available, the reports of both the professionals and the clients themselves on the impacts of plants and domestic animals on their well-being are favourable. An increase in self-dependence and self-confidence, as well as gaining experience and the acquisition of skills were the most often quoted positive effects. This can surely be an argument for the acquisition of farms. The purchase of a farm, its adjustment to the clients' abilities and needs, and the outset of the farming operation are very costly. The majority of similar institutions are in no position to raise the funds needed. On the other hand, this type of health/care farming might be applied in the case of revitalization of the abandoned farms in order to preserve landscape amenities.

Centre for Protection and Training Koper

This centre is one of the 45 centres that provide day care for about 2,200 mentally disabled. As the majority of them are overpopulated, 3 – 5% of all requests are rejected every year.

Centres for day care and protection of the mentally disabled have been facing the problem of being overcrowded since the early 1990s. One of the consequences of restructuring the economy was the decline of labour intensive industries where people with a mild degree of mental disability could find work and where they had been actually employed. They shared their destiny with other redundant workers. However, they were not included in the programmes of active employment policy. The solution was quite simple: the majority of them, younger ones in particular, were reclassified to a higher degree of disability since the status of a person with a moderate degree of mental disability enables them to get invalidity benefits and to enter the programmes for the disabled.

In order to fulfil the programme of individualization and normalization of care for their clients, the centre's management started to search for new activities. As three out of six units of the centre are situated in rural areas, they tried to implement the 'green programme' for clients with preferences for plants and animals. The existing budget provided only one option: finding a farmer who would be willing to accept the clients to his/her farm and to cooperate with the professionals from the

centre. As there is no network of farmers who might be interested in such activities, the search was quite informal. However, the quest "do you know somebody who might..." was successful and they launched an experimental programme on the goat-breeding farm Brdca during the 2003 season. Four male clients who opted for this programme worked with the farmer twice per week, four hours per day. Evaluation of the programme pointed out that all outlined aims had been met. The clients said that it was "nice to work in nature", that it was "good that they helped each other", that they "met Tomaž [farmer] and others". They were "quite satisfied with everything; no criticism". As the season 2003 was a very hot one, they complained about the heat. Two of the clients were disappointed with the pay and they decided not to continue the programme the following year. They would have "joined the programme with a better pay" (the professionals argue that the fees that the clients get in the case of pure therapeutic work are an issue). Two clients decided to stay with the 'Brdca' programme and were more than happy to introduce newcomers to the farm in the 2004 season (VDC Koper 2003).

The farmer, who prepared the activities and worked with the clients, stated that the programme corresponds very well to his service-oriented farm. Along with goat breeding, the farm offers an educational programme for school children – workshops on production and processing of goat milk. Furthermore, the farmer provides services in the field of landscape maintenance. The maintenance of Karstic woods offers a lot of activities suitable for the clients of the centre.

The financial arrangement between the centre and the farmer is quite interesting: the centre covers the farmer's contributions to the compulsory national pension and disability insurance scheme (15.5% of a minimal pension base, i.e. 100 euro/month in 2004). Moreover, the centre provides all needed appliances (tools, overalls, gloves etc.) and the farmer is reimbursed his expenses for preparing a hot meal for the clients.

In this case, all partners involved showed interest in the programme. The clients faced new challenges, they were included in the usual farm activities and in the everyday life of the village. The centre got the opportunity to provide the clients with a wider range of activities, and opened up to the community. Nevertheless, room shortage in the centre was eased at least a bit. The farmer earned an additional income, and got the opportunity to test the programme in order to decide on incorporating it into his development plans.

Due to the novelty of health/care farming, the cooperation between institutions and farmers seems to be the best initial solution. It allows everyone to learn about the activity *in situ* and gradually to accustom the farmer to the client, as well as the client to the farmer and the farm. As farmers are very well aware of the great responsibility, professional guidance and supervision provided by the institution might make it easier for farmers to decide to provide on-farm health/care services. It seems that the major threat to such an arrangement is the institutionalization of a health/care farm through a plain transfer of methods from the institution to the farm.

*Initiatives within representative clients' organizations**Sonček – Cerebral Palsy Association of Slovenia*

Sonček – Cerebral Palsy Association of Slovenia (founded in 1983) with more than 4000 members has been very active in the field of creating 'green programmes' for their target clients since its beginning. The first green programme of organic farming in combination with eco-tourism was launched in the village of Elerji in the early 1990s. The programme had been inspired by the experiences of Camphill communities. Production of organic vegetables, seedlings, ornamental flowers and saplings of fruit and forest trees was aimed to generate income, which would be used to finance other activities of the organization. Due to the lack of knowledge on farming and farm management, the programme had difficulties to meet the expected economic gains. Therefore, the aim of the programme was redefined and it became one of the rehabilitation and occupational programmes for the clients. The most popular activity at the moment is horse riding. Due to a lack of staff with agricultural skills other possibilities are used only to a minor extent.

Encouraged by the results of the first rural Sonček centre, another farm was bought in 2001. In this case, Farm Sončna vas (Sunny village) was incorporated into the initial rehabilitation programmes for the clients. The acquisition of the farm enabled two new programmes: holidays on the farm, and farming as an occupational activity. As the farm had been abandoned and neglected it demands a lot of repairing (buildings), as well as restoring (24 ha of gardens, orchards, fields, meadows and forest). Due to the available funds, the full operation of the farm is expected within a period of five years. Therefore, the investment in the needed tourist infrastructure has priority.

*Individual initiatives of farmers**Eco-farm Potočnik*

The eco-farm is practising bio-dynamic farming on 7 ha of arable land and produces cereals (wheat, barley, spelt, maize, buckwheat), potatoes and vegetables. There are nine heads of cattle on the farm, four milking cows and five fattening animals. They fatten 2-3 pigs also.

The Potočnik family has experience with mentally disabled persons. Their son had Down's syndrome. Unfortunately he was killed in a car accident twenty years ago at the age of 9. Since then, they have kept in touch with the special elementary school, which their late son had attended. A special 'green' programme has been developed for the pupils. It consists of several on-farm activities that are adjusted to their abilities. Older pupils are engaged in work that demands more strength (feeding and attending the animals, cleaning the stable), while the younger pupils are occupied with husking maize, shelling beans, milling cereals, etc.

The highlight of the programme is a workshop on spelt production and processing. The children keep watching the spelt growing throughout the year, and after the harvest they mill it and bake spelt bread. The total cost of the programme (ca 3 euro/pupil/day) is paid to the farmer by the school.

An early introduction of children with a mental disability to a farm and farm work significantly increases the likelihood that they will be willing to take part in agriculture-based activities as adults (Košmelj and Vadnal 2003). Such programmes are therefore very valuable for the future development of health/care farming.

FEASIBILITY STUDY ON HEALTH/CARE FARMING

The Municipality of Ljubljana is traditionally very supportive to the surrounding rural and agricultural areas. At the same time, the city's strategy of sustainable development lays great emphasis on the welfare of the townsmen with special needs. Therefore, it was the Municipality of Ljubljana that sponsored the very first research on feasibility of health/care farming in Slovenia for the period 2002-2004.

The basic presumption of the research was that health/care farming as supplementary on-farm activity will contribute to the economic viability of the farms in surrounding rural areas, as well as to the welfare of the citizens of Ljubljana with special needs, the mentally disabled in particular.

The purpose of the research was to find out whether the parents/guardians of the mentally disabled (potential demand), as well as the farmers (potential supply) would be interested in taking part in the system of social services for the mentally disabled (protection and training) provided by farmers as an on-farm supplementary activity. Group interviews were held to get the required information.

The research hypotheses were:

- Several lines of agricultural production (production of ornamental flowers, vegetables, herbs and mushrooms, horse riding, small-animal breeding etc.) are included as an indispensable component in the occupational therapies for the mentally disabled.
- In accordance with the principle of normalization, the inclusion of farmers in the therapeutic programmes based on agriculture will make better use of the therapeutic potential of agriculture and of agricultural resources, as well as contribute to a higher quality of life of the clients.
- Parents/guardians of the mentally disabled might be reluctant to the idea of health/care farming due to its novelty, and due to the poor public image of agriculture and capabilities of farmers.
- Farmers might be adverse to this novelty due to the low social awareness of the capabilities and well-being of the people with special needs, and due to the common prejudices against the mentally disabled.

The results of the feasibility study revealed that all potential partners, parents/guardians and farmers, accept the possibility of incorporating farms into the system of social care for the mentally disabled.

The quantitative modelling of the network of health/care farming resulted in the estimation that about 100-150 farms would be sufficient to meet the needs of Ljubljana. Through uniting the functions and/or services of social care, approximately ten farms would be designed for visits, which asks for minor adjustments to (dis)abilities of the mentally disabled. Approximately 30 farms would provide permanent residence and occupation (including a short-term stay),

which requires major adjustments, while approximately 50 (up to 100) farms would deal with daily occupancy as well as training.

The majority of the farmers estimated that there are no or only slight chances for provision of social services on their farm. About one third of the farmers would be ready to start health/care farming. There are two main reasons why farmers are reluctant to provide activities and/or care for the mentally disabled. First, they are convinced that having these people on the farm is too risky and they are afraid of the responsibility. Second, farmers are discontent with the legislation on the supplementary activities due to its rigidity and strictness. They fear that in the case of health/care farming regulations will be even more impractical and bureaucratic. Only one of the interviewed farmers expressed the opinion that special institutions are the best solution for taking care of the mentally disabled.

The Ljubljana case study, which was derived from the discourse on the new developmental paradigm of agriculture and social care, provided evidence for new possibilities for the efficient use of agricultural resources, irrespective of whether they are public or private goods, in the field of social services. However, the modelling and implementation of the emerging possibilities for farmers and people with disabilities have to be carried out with professional correctness by a multidisciplinary team (agronomists, social workers, economists, defectologists etc.) and with a great deal of social prudence. Relevant criteria, economic viability and quality of life of all involved have to be met. This is not an easy task at all.

In addition, neither parents nor farmers have knowledge of, or experience with, health/care farming. Nevertheless, they do accept the idea of incorporation of farms into the general provision of social services for the mentally disabled. However, the

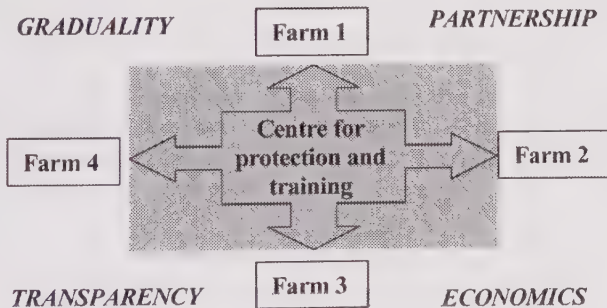


Figure 2. The feasible model of introducing health/care farming in Slovenia: partners and principles

decision to participate in health/care farming will not be easy for either of the groups. The parents of the mentally disabled as well as the farmers are very well aware of the great responsibility for all involved. Therefore, the implementation of social services as a supplementary on-farm activity should be gradual and backed by building up partnerships between the participants: parents, mentally disabled and farmers (Figure 2).

The mentally disabled, their parents or guardians and farmers have to get an opportunity to learn about the activity *in situ*. It is important that they can examine how the person with a mental disability accustoms him/herself to the farm, as well as how the farmers get accustomed to the clients on the farm. As parents have experience with centres for care and training, it would be reasonable to start health/care farming with their support and help. The centres would include regular visits to the farms in their programme. There, they would perform the activities that would gradually result in the inclusion of the mentally disabled in the everyday on-farm routine. However, there is another crucial issue. Differences in preferences of parents and their mentally disabled offspring may arise. From the point of normalization, it is of the utmost importance that the mentally disabled can speak for themselves. Therefore, a system of mediation is needed to prevent violations of the interests of the mentally disabled.

CONCLUSION

System of health/care farming as supplementary on-farm activity in Slovenia

On the basis of the Municipality of Ljubljana case study, the Ministry for Education, Science and Sport, Sožitje, the Slovene Association for Persons with Mental Disability, and the Agricultural and Forestry Chamber of Slovenia were prepared to fund the study at the national level. So far the existing results enable us to draft a general model (Figure 3) as well as a provisional SWOT matrix (Table 5) of health/care farming in Slovenia that might be useful as guidance for further activities. A systematic study of health/care farming has an intrinsic value: it enables the gradual build up of the network of initiatives, people and institutions.

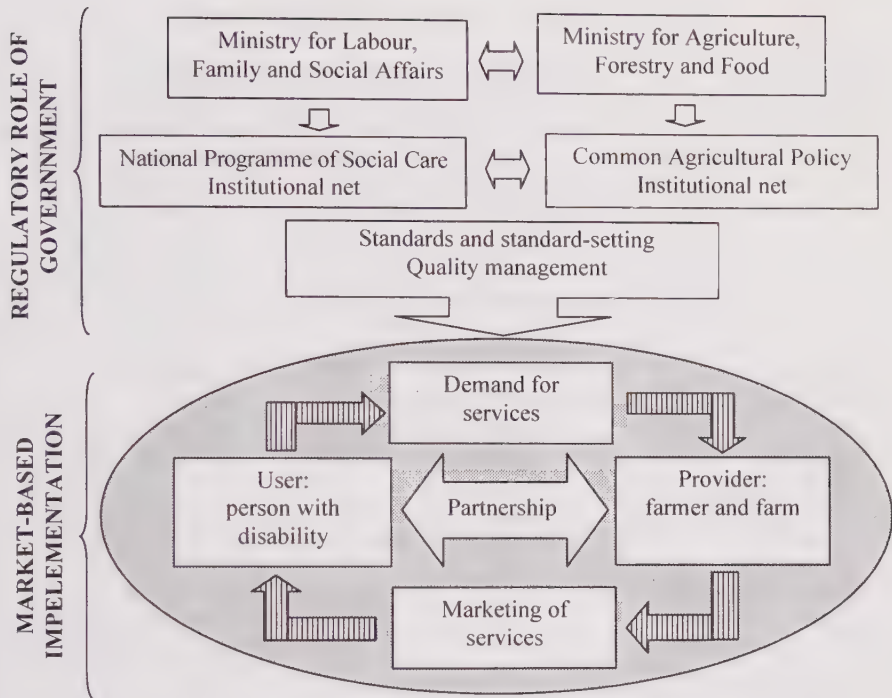


Figure 3. Socially acceptable and economically viable model of the provision of social services as an on-farm supplementary activity in the case of Slovenia

Table 5. SWOT matrix of health/care farming in Slovenia

	OPPORTUNITIES <ul style="list-style-type: none"> • National programme of social care (privatization, introduction of a voucher system) • Common agricultural policy (support to a multifunctional agriculture) • Increasing public awareness of human rights of the disabled 	THREATS <ul style="list-style-type: none"> • Domination of the existent institutions • Institutionalization of a care farm (plain transfer of methods from an institution to a farm) • Over-standardization • Contrariety of the environment
STRENGTHS <ul style="list-style-type: none"> • Multiplication of the therapeutic impacts of agriculture • Variegation of the activities for the disabled • Progress of the normalization • Better quality of life of the disabled • Lower costs of social care • Diversification of the income resources of a farm • Higher employment of farm resources • Improvement of the farmer's income 	STRENGTHS/ OPPORTUNITIES <ul style="list-style-type: none"> • Personal design of an independent life for the disabled • Business plan of a farm • Network of normalization 	STRENGTHS/ THREATS <ul style="list-style-type: none"> • Gradual inclusion of the institutionalized disabled on a farm • Development of a partnership between the disabled, farmers and institutions • Standardization of care farming in compliance with normalization • Support of civil society
WEAKNESSES <ul style="list-style-type: none"> • Care farming is unknown • Potential partners – the disabled and the farmers are unknown to each other • Apprehensions of hazards • Inadequate skills of the disabled • Inadequate skills of the farmer • Inadequate agricultural technology • Possibility of mistreatment of the disabled 	WEAKNESSES/ OPPORTUNITIES <ul style="list-style-type: none"> • Personal design of an independent life of the disabled • Contract on mutual relations • Development and implementation of 'good practice' (social work and farming) • Development and implementation of training schemes • Promotion of care farming among target publics (the disabled and farmers) • General promotion of care farming 	WEAKNESSES/ THREATS <ul style="list-style-type: none"> • Self-advocacy • Standards of performance • Multi-disciplinary system of supervision

FUTURE CHALLENGES

The results of the SWOT matrix show that the further development of health/care farming in Slovenia should be placed within the 'system – awareness – practice' (SAP) triangle' (Figure 4).

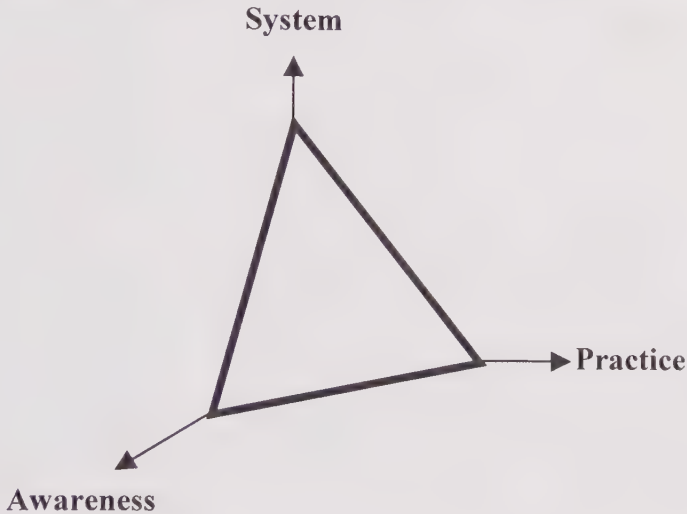


Figure 4. Framework of the future development of the health/care farming in Slovenia - SAP triangle

The dimension 'system' asks for incorporation of health/care farming into the National Programme of Social Care 2005-2008. The Ministry of Labour, Family and Social Affairs has already expressed its interest and contacted the Ministry of Agriculture, Forestry and Food Industry for cooperation. The dimension 'awareness' asks for promotion activities, aimed at clients, farmers, professionals and the public at large. It is essential that health/care farming is understood and accepted as an issue of the sustainable development of the country. As health/care farming is a novelty in Slovenia, the Semenarna Ljubljana Group (seed-producing and -trading company) is willing to sponsor health/care farming by including it into its regular promotion activities, as well as by providing health/care farms with materials that are needed for working with clients (seeds, seedlings, tools etc.). The dimension 'practice' is the most demanding and consists of the development and implementation of a 'good practice' of social work and of farming, as well as of the development and implementation of training schemes for clients, farmers and therapists. Building up an operative 'practice' at a reasonable cost and in good time requires a joint action at both the national and the international level.

RELEVANT ORGANIZATIONS AND PERSONS

1. Clients' organizations

Name		Person	Address	
Sožitje - zveza društev za pomoč osebam z motnjami v duševnem razvoju Slovenije	Sožitje - The Slovene Association for Persons with Mental Disability	Tomaž Jereb, director	Samova 9/II, 1000 Ljubljana Slovenija Website: http://www.zveza-sozitie.si	Tel.: +386 1 43 69 750 Fax.: +386 1 43 62 406 E-mail: info@zveza-sozitie.si
Sonček - Zveza društev za cerebralno paralizo	Sonček - The Slovene Association of Societies for Cerebral Palsy	Jože Primožič, director	Rožanska 2 1000 Ljubljana Slovenija Website: http://www.zveza-soncek.si	Tel.: +386 1 534 26 43, Fax: +386 1 568 60 75 E-mail: zveza@soncek.org
Šent - Slovensko združenje za duševno zdravje	Šent - The Slovene Society for Mental Health	Nace Kovač, director	Cigaletova ulica 5 1000 Ljubljana Slovenija Website: http://www.sent-si.org	Tel.: +386 1 23 078 30 Fax: +386 1 23 078 38 E-mail: info@sent-si.org

2. Farmers and farmers' organizations

Name		Person	Address	
Kozjereja Brdca	Goat-breeding farm Brdca	Tomaž Ferluga	Vrhopolje 6240 Kozina, Slov.	Tel: Gsm: +386 40 342 200
Kmetija Kepec	Kepec farm	Vinko Kepec	Zalog pod Sveto trojico 5 1233 Dob, Slov.	Tel.: +386 1 724 91 13
Kmetija Potočnik	Potočnik farm	Silva Potočnik	Brezje 66 4234 Brezje Slovenija	Tel: +386 4 533 82 79
Turistična kmetija Pecel	Tourist farm Pecel	Peter Malenšek	Maline 17 8333 Semič Slovenija	Tel: +386 7 30 67 022 Fax: +386 7 30 67 778 Gsm: +386 40 620 556 E-mail: peter.malensek@siol.net
Zveza kmetič Slovenije	Slovenian Association of Farming Women	Marija Horjak, president	Celovška 43 1000 Ljubljana Slovenija	Tel.: +386 1 434 00 48 Fax: +386 1 434 00 50 E-mail: zvezakmeticslovenije@siol.net
Kmetijsko gozdarska zbornica Slovenije	Agricultural and Forestry Chamber of Slovenia	Peter Vrisk, president	Miklošičeva 4 1000 Ljubljana Slovenija Website: www.kgzs.si	Tel.: +386 1 24 16 300 Fax: +386 1 24 16 350 E-mail: kgzs@kgzs.si

3. Institutions

Name		Person	Address	
Zavod Hrastovec-Trate	Institute Hrastovec-Trate	Josip Lukač, director	Hrastovec 22, 2230 Lenart v Slovenskih goricah Slovenija Website: http://www.hrastovec.org	Tel.: +386 2 729 35 10 Fax.: +386 2 729 35 66 E-mail: zavod@hrastovec.org
Center Dolfke Boštjančič	Centre Dolfka Boštjančič	Valerija Bužan, director	Naselje Draga Slovenija 1292 Ig Website: http://www.center-db.si	Tel: +386 1 420 26 00 Fax: +386 1 286 35 47 E-mail: center.draga.ig@center-db.si
Varstveno delovni center Koper	Centre for Protection and Training Koper	Irena Fister, director	Ulica 15. maja 8 6000 Koper, Slov. Website: http://users.volja.net/nevij	Tel: +386 5 62 62 851 Fax: +386 5 62 75 601 E-mail: vdckp@siol.net
Varstveno delovni center Tončke Hočevar	Centre for Protection and Training Tončka Hočevar	Tatjana Podlipec, director	Vodnikova 56 1107 Ljubljana, p.b. 68, Slovenija Website: http://www.vdc-tonckehocevar.com	Tel: +386 1 583 88-50 Fax: +386 1 515 28 75 E-mail: vdc.rac@siol.net
Socialno varstveni zavod Dutovlje	Social welfare institution Dutovlje	Zmaga Prošt program manager	Dutovlje 128 6221 Dutovlje Website: http://www.svz-dutovlje.si	Tel: +386 5 764 01 14 Fax: +386 5 708 41 00 E-mail: svz.dutovlje@siol.net
Skupnost socialnih zavodov Slovenije	The Association of Social Institutes of Slovenia	Boris Koprivni kar, president	Letališka cesta 3c 1122 Ljubljana Slovenija Website: http://www.ssz-slo.si	Tel: +386 1 520 80 00 Fax: +386 1 20 81 06 E-mail: sszs@siol.net

4. Researchers

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Jan Ulaga	Center Dolfke Boštjančič	Centre Dolfka Boštjančič	Naselje Draga Slovenija 1292 Ig Website: http://www.center-db.si	Tel: +386 1 420 26 00 Fax: +386 1 286 35 47 E-mail: jan.ulaga@guest.arnes.si
Irena Borštnik	Center Dolfke Boštjančič	Centre Dolfka Boštjančič	Naselje Draga Slovenija 1292 Ig Website: http://www.center-db.si	Tel: +386 1 420 26 00 Fax: +386 1 286 35 47 E-mail: irena.borstnik@guest.arnes.si
Simona Terčak	Center Sonček Vrtiče - Sončna vas	Centre Sonček- Sunny Village	Spodnje Vrtiče 8 2201 Zgornja Kungota, Slov. Website: http://www.zveza-soncek.si/Center_soncek_vrtice.htm	Tel.: +386 2 656 06 00 E-mail: zveza@soncek.org

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CHAPTER 19

FARMING AND SOCIAL-CARE COMBINATIONS IN POLAND

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Abstract. The situation of social and health care is undoubtedly a field that needs improvement and more attention in Poland. Many groups of society, like homeless, disabled, unemployed or elderly people, lack sufficient support and stay alone with their problems. Expected economic development in Poland in the coming years should imply an increase of expenditures for social care and thereby narrow down the groups that cannot at present get this kind of support. Those two circumstances give great opportunities for development of Farming for Health (FH), as the need for high-quality social care in Poland is rising.

At the moment in Poland there are some existing initiatives referring to FH as well. Those are mostly institutional care farms and some care activities on farms initiated by the farmers themselves. Nevertheless, in Poland such examples are not being perceived as an independent and important field in social care and there is no research on this subject.

The only project that focuses on and clearly recognizes the issue of FH takes place in the south-eastern part of Poland and is the outcome of four years of Polish-Dutch cooperation. Project initiators concentrate on improving the care situation for elderly and physically and mentally handicapped people, as these are the groups that are most lacking good-quality social care, by creating care farms in the region. Care farms, led by farmers, could provide different social-care services for the weakest groups of society and give them an opportunity to participate in farm activities. Project participants believe that, similarly to the experiences from other Western-European countries, care farms will have positive and healing effects on their inhabitants, having in mind physical, psychic and social health.

Main challenges for FH in Poland are:

- to change the mentality and consciousness of Polish society on the subjects of social care, like old age or mental diseases;
- to promote the idea and positive effects of FH in Poland, so that it is known to Polish citizens and conceived as an important alternative in caring for people;
- to develop sustainable financing structures for FH;
- to learn from other countries with a longer history in FH;
- to develop and strengthen the position of the sector of social care in Poland as a whole.

Keywords: family care farms; agriculture and care; Leżajsk; social problems; mentally disabled; physically disabled; Farming for Health

PRESENT SITUATION OF FARMING FOR HEALTH IN POLAND

There is a double answer to the question “Does Farming for Health exist in Poland?”: “yes” and “no”. First of all, there are some existing examples of activities

related to farming and social care in Poland but they are not being perceived as an independent and important field in social care. According to the personal knowledge of the author, there are examples of institutional types of care farms in few places in Poland and some care activities on farms initiated by farmers themselves. Some examples will be presented in this chapter. It is interesting that the Polish institutional care farms that we know about, are the 'helping-hand farms' (see Annex 1 for a description of some categories). This means that the purpose of their establishment was to support the social-care institution economically (by producing basic food products) and not to provide care to the pensioners. With time, their role in the institution never really evolved to become an essential element of the caring process and remained a factor of minor importance.

For a better understanding of the circumstances under which Farming for Health (FH) may develop in Poland and what hindrances may occur, it is useful to describe social relations in Polish society. Social and health care in Poland are undoubtedly two of the fields needing improvement and more attention. Many groups of society, like homeless, disabled, unemployed or elderly people, lack sufficient support and stay alone with their problems. Expected economic development in Poland in the coming years should imply an increase of the expenditure on social care and thereby narrow down the groups which cannot get this kind of support at present. No less important are further serious efforts to change mentality and consciousness of society on the subject of old age or mental diseases, which still embarrasses too many people. Those issues become even more crucial in view of population forecasts that say that in 2030 one third of the Polish population will have reached retirement age.

As long as there is no research on FH in Poland, and awareness of people about the importance and distinction of this field is absent, it is impossible to assess the real number of care farms (which do exist in Poland), potential groups of people who benefit from it, and Polish discoveries in healing effects of being engaged with farm life.

There is one initiative in the south-eastern part of Poland which focuses on and recognizes clearly the issue of FH. The project taking place in the powiat Leżajsk¹ is a Polish-Dutch initiative with the aim to create care farms in Poland. Project initiators concentrate on improving the care situation for elderly and physically and mentally handicapped people by the promotion of so-called, 'family care farms'². Family care farms, led by farmers, will provide a good-quality care for the weakest social group – elderly and physically and mentally disabled people – and give them an opportunity to participate in all of the farm activities. In the respect of farmers' families in this area, establishment of family care farms in the powiat Leżajsk would allow them to generate enough income to keep their farm.

POLISH POLICIES REFERRING TO FARMING FOR HEALTH

Social care is part of the national social policy to enable certain persons and their families to overcome their difficult life situations, which they are not able to carry on by themselves. Responsibilities for social care in Poland are divided over all

levels of the self-government structure (gmina, powiat, voivodship) and the state government but also non-governmental organizations (contribution of 10% of total care). The basic care is provided by the gmina where the respective person lives. Gminas are responsible for local support and satisfying general needs of the local society including the organization and provision of social care.

The main guidelines for social care in Poland are laid down in the Act on Social Care dated 29 November 1990. In the present legal status a large share of the responsibility for providing care lies with the state. While execution of these tasks is delegated to the level of gmina and powiat, costs related to care activities are borne by the national budget.

Changes that are currently introduced in Poland as regards social-care policy head for decentralization of financing the tasks. The system of budget grants has been replaced by the system of financing social care from local taxes (before, the major part of tax income was transferred to the national budget which afterwards was redistributed to local levels as budget grant for certain tasks). This reform will change the situation of the existing social-care houses radically. Before, they were financed directly from the national budget through powiat Centres of Family Care. After the reform costs for care will be partly covered by the client, his/her family and the gmina where the respective client is registered. Only in case of previous clients the old system will apply. The new financial law has come into force in January 2005. This law increases the responsibility of gminas for the formulation of local care policy and will force them to look for other types of activities in order to execute this task according to expectations, with in fact less money available.

Enforcement of the new law, together with the present tendencies to put more attention to the problem of the ageing society and the issue of improving the quality of life of disabled people, gives a great opportunity for the development of social-care farms in Poland. Gminas will have to look for the most efficient solution to provide social-care services in their territory, into the aspect of quality of care but also into the economic aspect. Care services provided by farmers will most probably be cheaper than care services provided by institutions. Those are the experiences in many European countries with a longer history of FH. Lower cost of care services on the farms with similar healing results for the clients is the most important argument to convince Polish local governments (which will participate in the costs of social care anyway) to support the creation of family care farms. On the other hand, Polish national and regional social policy will in the years ahead have to deal with a completely new situation, when the needs for social care in the society will increase, simply because the society is getting older and more aware of the existing inequalities of disabled people.

POLISH EXAMPLES OF FARMING AND SOCIAL CARE COMBINATIONS

As mentioned above, there are FH initiatives in Poland. In the following the author will present a description of the examples of FH in different parts of Poland.

Association in support of Integration of Handicapped People (Stowarzyszenie na rzecz Integracji Osób Niepełnosprawnych) in Bronów

The association has already been in existence for six years. It is located in the southern part of Poland. Its members are healthy but also handicapped in many different ways (for example: paralysis or deafness). At present the association has about twenty members and many friendly persons who support its activities from the outside.

The guiding idea for all actions taken by this association is work. Each of us needs to work to feel useful in life somehow. Work always relates to our physical and mental healthiness, because determined actions that we take and certain repetitive activities have a positive therapeutic influence on us. The Association in support of Integration of Handicapped People in Bronów has 2 ha of arable land, a substantial orchard, a vegetable garden, a small house and one barn. Closeness of nature makes it possible to feel its reality and to live wholeheartedly. Nature teems with lively scenes and rhythms, which are indispensable to people. Thanks to nature we all can experience different seasons of the year, growth of plants and animals, calmness, sequence and harmony. Activities can consist of working in a garden and orchard, working the soil (e.g. digging), raking, making patches, planting, weeding, harvesting, mowing, learning to concentrate and to observe better, inspiring interest in nature, learning how to love the environment and how to respect it. At present the association does not possess any agricultural machinery, equipment and animals to breed, but may obtain these in the future.



Figure 1. One of the members of the Association, Krystian, making simple wooden figures for toys for children, Bronów 2002

Two main types of workshops are organized by the association for its handicapped members: handmade production of bee-wax candles and simple

wooden toys and figures. The aim of these workshops is to make useful and precious things. This kind of work teaches responsibility (products must be ready at a certain time and in a certain amount), new skills, sense of the material and form, and improves creativity and imagination.



Figure 2. Common work in the house of the association, from left to right: Andrew, Igor, Roman and Katharina, Bronów 2003



Figure 3. Handicapped members of the association: Andrew (deaf-and-dumb) and Krystian (paralysed after an accident) in the orchard peeling apples, Bronów 2001

Experiences of this Association are that when handicapped people (but not only they) feel useful, limitations and obstacles do not count anymore. It is knowledge, self-determination and skills that really count... It is up to us whether we will be successful and what we will do with our lives.

Social Care House in Bramki

The Social Care House in Bramki is a public institution for about 170 adult mentally handicapped people. The average age of the inhabitants is 55; they have different levels of disability. The Social Care House in Bramki has existed since 1960.

The 'helping-hand farm' was at the same time established next to the institution. The reason for its establishment was – and still is – to provide vegetables and food for the inhabitants of the institution and provide crucial activities and a useful way to spend spare time. The Social Care House in Bramki runs the farm and is responsible for it. At present the farm covers 6 ha of arable land. Crops that are cultivated here are mostly wheat and potato. This is the basis for feeding the pigs that are being bred as well. The farm produces different types of vegetables, also in glasshouses, for the needs of the Social Care House.

Inhabitants of the House can participate in various activities and help on the farm. They take part in ergo-therapy, which is a special therapy through work. According to their abilities and medical judgement of the doctor they help in preparing feed for the animals and in cultivating the plants, which includes planting, weeding, watering and harvesting. Activities are led by workers of the farm specialized in agriculture and employees of the institution, and go ahead regularly. At present nine of the inhabitants of the house participate in ergo-therapy on the farm. Those are people with different stages of disability and in different age (from 35 to 50). In the past more people were taking part in work on the farm, but nowadays they are too old. Most inhabitants of the Social Care House in Bramki come from rural areas and they have been working on a farm for all their lives. This is why they really appreciate the opportunity to farm again. On the other hand, employees of the house recognize many positive results in the whole rehabilitation process of their patients who participate in ergo-therapy on the 'helping-hand farm'. Inhabitants who work there feel self-esteem, they can do things they like and stay with nature in fresh air.

Association "Communion" (Stowarzyszenie "Wspólnota") in Wojtówka

The Association "Communion" in Wojtówka has existed since 1991 with the main objective to take care of mentally handicapped people. Model for establishing the centres of permanent stay for mentally handicapped people in Wojtówka were the Camphill Centres, which exist all around the world and have their origin in Great Britain.

To fulfil this intention the Association established two homes of permanent stay on the basis of farming and gardening. Work in the garden and on the farm enables occupational therapy for inhabitants of the Centre.

At present, 12 mentally handicapped people live in the Centre. They are from 19 to 45 years old and have different levels of handicap, from light to very serious. Six persons are permanently involved in working in the Centre. They are taking care after the inhabitants, running homes of permanent stay and a farm in Wojtówka, gardening, leading therapeutic and educational workshops and doing the administration of the Centre. In the last two years the Association has built a new house and has bought two other neighbouring farms. Both needed general restoration.

Over the last few years there has been a big interest in the activities of the Association, which resulted in a plan to establish more homes of permanent stay for another 9 to 10 mentally handicapped persons.

From the beginning of its existence, the Association has been organizing camps for special-attention groups, agricultural courses and workshops for mentally handicapped, international youth exchange, meetings of social workers and various cultural events.

PROJECT 'PROMOTING FAMILY CARE FARMS' IN LEŻAJSK

The project 'Promoting family care farms' is the result of four years of Polish-Dutch cooperation. The two main implementing organizations are ETC Nederland in Leusden, The Netherlands, and Leżajskie Stowarzyszenie Rozwoju (Leżajsk Development Association, LSR) in Leżajsk, Poland. As such it is the first FH project in Poland.

ETC Nederland was established in 1974 as a non-profit organization. The original aim was to assist developing countries in the fields of training and organizational development. Nowadays the mission in brief is: "to encourage and support local initiatives with the aim to build sustainable development". ETC supports and promotes local knowledge and experience as the building blocks for sustainable development. Its activities seek to strengthen governmental, non-governmental and private institutions at local, regional and national levels. In this way the institutions should become capable of performing their functions autonomously and without external support. After the projects led by ETC the knowledge stays with the people. The important factor why the local knowledge and experience is a basis for development is because the ETC activities are also based on the potential of the area and people where social acceptance plays an important role.

Leżajsk Development Association was founded in 1993 by entrepreneurs, businessmen, representatives of the local self-governments and representatives of the state administration, with the mission: "to develop the local society". LSR stimulates the development of small enterprises and rural development in the region. Different groups of clients in the area take advantages of its services. Those are mostly SMEs, people starting their own business, offices and public institutions, NGOs, young people, employees or unemployed persons. LSR is the association where the total income is spent on realizing the objectives. It is well informed and has wide private and public contacts in the powiat Leżajsk, the neighbouring powiats and the voivodship of Podkarpackie.

The first phase of the project was the 'Pro-Ecological Project' in the powiat Leżajsk, carried out from January 2000 to July 2002. It was financed by the Dutch Ministry of Social Affairs and Labour (MSAL). Its main aim was to develop mechanisms for participatory rural development in view of increasing income opportunities for the rural population while safeguarding the natural environment. The basic output of the project was a powiat development strategy with general directions for development and a list of concrete actions for creating employment opportunities. Analysis of the problems and design of the plan were carried out with a mixture of public and private stakeholders. Family care farming was identified as an important priority area for further study and development.

The 'Bridging Phase' was the next phase of cooperation carried out from September 2002 to August 2003 and financed through MSAL. Its mission was: "To consolidate the collaborative mechanisms established during the first phase of the Pro-Ecological Project in view of successfully preparing the implementation of the powiat development plan and establishing an effective public-private partnership". In this phase, among other aspects, the feasibility of the initiation of family care farms in the powiat Leżajsk was analysed with positive results.

Family care farms fit very well into the pro-ecological project approach because they can increase quality of life for certain groups of society and stimulate non-farming activities on farms, which is of great importance in this target area. Farming for health can be easily combined with the various nature protection activities and can help to sustain the traditional, old methods of food production or farming. Characteristics of the target area: Powiat Leżajsk is located in the south-eastern part of Poland and is divided into five gminas: town Leżajsk, gmina Leżajsk, gmina Nowa Sarzyna, gmina Grodzisko Dolne and gmina Kuryłówka (see Figures 4-6). The total surface area of the powiat is 583 km² with a population of 70,000 people.



Figure 4. The 16 Voivodships of Poland.



Figure 5. Podkarpackie Voivodship and its powiats



Figure 6. Leżajski Powiat and its gminas

The indispensable strengths of the powiat are an unpolluted environment and a beautiful landscape that attracts many tourists. Here they find good places, especially for hunting, fishing in the river San, horse riding and hiking. Powiat Leżajski generates attention also by organizing many festivals and celebrations every year. Examples are the International Festival for Organ and Chamber Music, and the Festival of Hunting.

Farmers in the powiat Leżajski specialize in the cultivation of fruit, vegetables, tobacco and willow for weaving wicker products. Big problem of the rural areas is the small average size of the farms (3.7 ha, while the average in Poland is 8-9 ha) and the low profitability of farming. Those are the reasons why farmers often look for additional sources of income and why local handicraft is so interesting and

diverse (toys, sculptures, clothes, etc.). Otherwise many of the small-scale farmers would have to quit farming because they are unable to make a living from farming alone.

The unemployment rate in the powiat Leżajsk (18.2%) exceeds the average unemployment rate in Poland. One out of five persons able to work is unemployed. Most of the people without a job are young people (63%) and inhabitants of the rural areas (75%). Farming and agricultural production are the main activities for the majority of inhabitants able to work in the powiat Leżajsk.

Social-care problems in the powiat Leżajsk

A number of interviews have been held in the context of the project to find out what the existing social problems in the region are and in which particular directions social care on the farms should proceed. The following social and health problems have been recognized:

- Poverty because the wage earner(s) is (are) unemployed or partly unemployed.
- People feeling unhappy, isolated and useless due to long-term unemployment.
- Poverty and/or other social problems caused by alcoholism or other kinds of addiction and insufficient institutional care for the addicted people.
- Elderly people feeling unhappy, isolated and useless and lacking necessary care (because their family cannot look after them as they moved out of the area to search for work) and insufficient institutional care for elderly people.
- Physically and/or mentally handicapped people feeling unhappy, isolated and useless and lacking necessary care because the family cannot cope and again insufficient institutional care for physically and/or mentally handicapped people.
- Waiting lists of social-care institutions for elderly and handicapped people in the powiat Leżajsk, which makes getting urgent help impossible.
- Pensions of elderly people become the only regular source of income for a growing number of families in the powiat Leżajsk.

According to the experiences of the public and private social-care institutions that participate in the project Family Care Farms, groups lacking sufficient care in the powiat Leżajsk are especially elderly, mentally and/or physically handicapped people and people with psychological problems.

The multi-generation family has been typical in Polish rural areas for ages. In such a family elderly people usually got care from their children, who were living with them, so there was no need for elderly people to go to social-care institutions. Nowadays the situation has changed. The multi-generation family disappears more and more from the Polish reality because young people are moving to the cities and even to other countries in search of work. The reason for this is a difficult economic situation of most of the families in the powiat Leżajsk where many wage earners are unemployed. Increasingly, elderly people are staying behind on their own and consequently many of them feel isolated, useless and unhappy and cannot be looked after anymore by their children. This means that they have to apply to social-care institutions for care. But an elderly person needing urgent care cannot get this care due to the long waiting lists. They have to wait at least half a year up to 2.5 years for

a place. Most of the people in need of care do not like to go to the institutions, but there is no alternative. Otherwise more family members have to take up the task of caring, which means staying jobless themselves.

The social care for mentally and/or physically handicapped people in the powiat Leżajsk needs improvement as well. Similarly to elderly people, this group that is in need of care stays in the family. The problem is that in most cases the family is not able to care properly for a handicapped person. Usually, disabled people are isolated, feeling useless and unhappy. Institutional social care is not efficient enough. Not all of the handicapped people can get the necessary help.

Type of care farm

The Act of the Polish Ministry of Labour and Social Policy, dated 17 October 2001, concerning family social houses and the Act concerning Social Care, dated 12 March 2004, form the basis for setting up care farms. In order to comply with Polish law on social care, project initiators decided upon the specific name of the care farms in south-eastern Poland: 'family care farms'.

Family care farms that the project participants want to create, have the following characteristics:

- Small-scale operations – they give care to three or more persons, with a maximum of eight persons.
- Two types of care farms – farms that offer 24-hour care (with accommodation) and farms that care for a few hours a day (without accommodation).
- They meet specific requirements depending upon the target groups with regard to the location and accessibility of the farm and the kind and quality of the facilities available on the farm.
- Family care farms cooperate with each other at gmina level. They assist each other in certain situations and exchange experiences.
- They get support from the relevant social and health institutions in the powiat.
- Farmers who want to start a family care farm get an introductory training.

Family care farms provide accommodation for living, caring, performing activities and working in the form of occupational therapy. According to the legislative acts and the intentions of the working group on the project in the powiat Leżajsk, family care farms will have to fulfil all necessary criteria to provide high-quality care to their clients. Those criteria refer in the first place to the skills and knowledge about social care of the farmers and to provide appropriate living conditions on a farm. The necessary conditions are especially that buildings and their surroundings have good access for caretakers without any physical barriers, there is proper space in each room for every person in need of care, the farm has outside activity areas such as gardens and stables for small animals, is fully equipped, that in multilevel buildings without an elevator the rooms for care seekers are located on the ground floor, etc. In view of providing high-quality services to care clients, it is envisaged that family care farms in Leżajsk strive for offering more than is required by the legal criteria.

Target groups

Taking into account legal aspects in Poland, social problems in the particular area and all possibilities and limitations for family care farms, it was evident for the working group that family care farms will initially focus on the following groups of care clients: 1) elderly people; 2) physically and mentally handicapped people; and 3) people with psychological and/or social problems.

It was agreed that it should be possible to give care to a combination of the above-mentioned target groups, if preferred by the farmer and his wife and if they have the opportunities and skills to do so. It is expected that members of one target group can support members of the other target group in many ways, which is confirmed by experiences of the Dutch care farms. Care farms with mixed groups of clients have one of the best therapeutic results in The Netherlands.

Kinds of care given by family care farms

Family care farms offering 24 hours' care and protective services on the farms (in practice a few hours per client per day) can offer a combination of the following kinds of care:

- daytime physical and social care;
- guidance by daytime activities;
- occupational therapy.

Daytime physical and social-care services involve helping care clients in casual life situations and activities. On such farms farmers assist their clients by supplying meals, cleaning and tidying up rooms, giving help with dressing, eating, washing and bathing, help by taking care of personal things, caring or assisting in case of illness and help to make use of other health/medical services, help to buy clothes, shoes and other personal belongings.

Guidance in daytime activities and occupational therapy concentrates more on doing certain activities that a person would not have a chance to do while staying in an institution or at home. This kind of care involves the clients themselves, which is expected to have a positive influence on their therapeutic results. Social-care farmers guide care clients and show them how they can participate in the farm and household activities like taking care of animals, working in the vegetable garden, doing other auxiliary works on the farm, preparing meals or tidying up rooms.

Occupational therapy by family care farms is offered in close cooperation with the appropriate social-care institution in the powiat. Together they work out the content, method and means for therapy of every individual person in need of care.

On each family care farm it is of great importance that farmers take into account health, physical and intellectual skills, individual needs and abilities of a person who stays on the farm, as well as human rights, including the right to privacy, freedom and safety.

Organizational structure of family care farms in the powiat Leżajsk

In the Family Care Farms project, cooperation between family care farms, social-care institutions and local authorities is of vital importance. Only such environment enables building up a professional sector of high-quality care services on family care farms. Farmers in the powiat Leżajsk have no experience in professional social care and, in addition, their households will need much effort to adjust them to the needs of clients. For this reason farmers need support of the social-care institutions in their powiat during the initial phase as well as while prospering. From the institutions' point of view, establishment of family care farms will diversify care services in the region and reduce existing long waiting lists of people needing care. Social-care institutions in the powiat Leżajsk have been very active in the elaboration of the concept through their involvement in the preparatory working group on the project.

Figure 7 represents the cooperation and information channels within the proposed family care farm sector.

People in need of care are in the centre of attention in the organizational structure of family care farms. The project is primarily dedicated to their needs, abilities and development. Clients will have four ways of applying for help in the social-care structure:

- to the Powiat Centre of Family Care (PCPR), the managing social-care institution at powiat level;
- to the Gmina Centre of Social Care (GOPS), the managing social-care institution at gmina level;
- to the Occupational Therapy Workshops (WTZ), Environmental Houses of Mutual Aid for mentally disabled (ŚDS), Homes of Social Care for elderly people (DPS) or other institutions which directly provide care;
- to the Supporting Bureau, which is the operational, coordination and first contact body of the Family Care Farms Association, for conscious clients interested in receiving care from family care farmers.

These contact institutions give information about the possible places of social-care support for clients and their families. When a person is interested in staying on a family care farm, he/she is directed straight to the Supporting Bureau, which presents the offer of family care farms in the region and their conditions, and brings the client into contact with the farmer. For the future it is also necessary to form a Client Association, which will look after the interests of clients, negotiate an optimal social-care system in the region and ensure a proper balance between what people in need of care want and what the social-care sector provides.

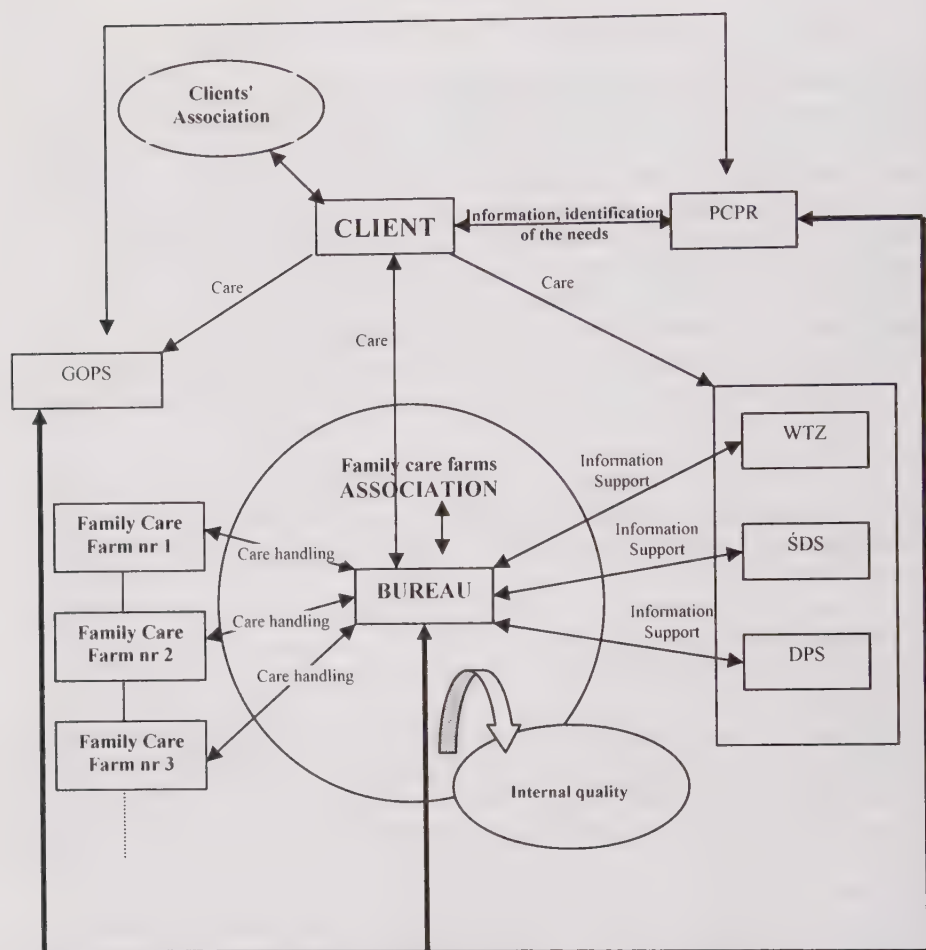


Figure 7. Information and identification of social-care needs in the region

Gmina Centre of Social Care (GOPS) realizes tasks of the gmina concerning social care. It is responsible for money allocation from the gmina's budget designed for social-care services in the territory of the gmina. GOPS investigates the client's social and financial situation and decides on the financial contribution of each person in need of care.

Powiat Centre of Family Care (PCPR) realizes tasks of the powiat concerning social care. It has the basis of all existing care entities in the powiat, serves as information point, provides expert support, etc.

Both of the above-mentioned institutions are responsible for controlling the quality of social-care services and living standards on the family care farms. On the other hand, the Supporting Bureau is responsible for working out the internal quality

system that has to be fulfilled by all farmers. GOPS is also responsible for allocation of financial means for the social-care services in the respective gmina.

Another role is attributed to individual care-providing institutes like Occupational Therapy Workshops (WTZ) in Leżajsk, Environmental House of Mutual Aid for Mentally Disabled (ŚDS) in Sarzyna, and Home of Social Care for Elderly People (DPS) in Brzóza Królewska. They can support family care farmers in:

- training knowledge and skills in giving care to different groups of clients;
- organizing meetings between farmers and relevant social- or health-care institutions to exchange experiences with giving care to a specific client group;
- assistance in the intake of people to the family care farm;
- assistance in formulating a care plan and setting up a dossier for each client. A care plan describes the kind of care the client needs, the kind of activities that are appropriate for him/her and possibilities for the future. In the dossier the farmer makes notes of the behaviour, health and changing needs of the client;
- supporting family care farmers who have clients with difficult problems by giving advice or taking up a client in their institution for a certain period in case of a crisis situation;
- providing expert and equipment support in the rehabilitation and therapeutic process of people staying on family care farms.

Setting up family care farms in the powiat Leżajsk will need a lot of time and attention. Existing social-care institutions have neither the time nor the competence to do that. This is why it is necessary to implement the Supporting Bureau as a main coordination body in the family care farms sector. Initially, the Bureau will be responsible for establishing the first family care farms. This is why it will have to make a detailed survey concerning the interests of potential clients, farmers, local governments, public and private institutions in starting up family care farms in their gminas. In the initial phase the Supporting Bureau calculates the costs of care services offered by family care farms and searches for possible sources of financing their activity. After family care farms appear in the region, the Supporting Bureau will overlook the network of this new sector, maintain close contact with all institutions that are involved, be a central information point for clients (elderly, mentally and physically handicapped people) and farmers, and register, coordinate and match demand and supply (in terms of service needed and offered). Another important function is to provide follow-up to the client, stimulate the quality of the social-care services, exchange knowledge and experience (the Bureau as a place where all information is gathered), support starters, and take care of the interests of family care farmers.

Financing structures of family care farms

According to the legislative aspects on social and health care, family care farms can be regarded as a specific form of family social houses (Act concerning Family Social Houses, 17 October 2001) and/or as a place where 'protective services' are offered (Act concerning Social Care, 12 March 2004) to lonely people, who need

help of others because of high age, illness or disability. Both acts describe which people can make use of social care, which requirements should be satisfied by the family social houses, who can establish them, and how the care services should be financed. In both cases the gmina pays for care given to these persons as the body responsible for providing social care to citizens. The board of each gmina makes a regulation that settles the own contribution of the care questioner, which can never be higher than 70% of the pension of each person in need of care. This contribution does not depend on the place where a person stays; the same percentage will be applied for a place in the institution as for a place in the family care house.

The system of financing social-care services in Poland has changed in May 2004, when the gmina instead of the national budget became responsible for paying all expenses for social care in its territory from its own budget. Since this moment a gmina has to choose the optimum combination of means to provide social-care services to its citizens, in both an economical and a social way. Project initiators want to introduce to gminas an alternative to institutional forms of social care – family care farms, which will be most probably cheaper than the social-care institutions. Expectations are that gminas with their limited budgets will be interested in creating family care farms in their territory, under the condition that the quality of care will stay at a comparable level of acceptability.

Financing of family care farms is divided into the structural financing and funding for supporting the sector of farming and care combinations. Structural financing, which is the direct payment for the care services given by the farmers, has to be very precisely and clearly arranged so that all organizations and authorities involved know their responsibility. Structural financing of family care farms has to be the own private–public contribution of local authorities, social-care institutions and clients. This is the only way to achieve an efficient and prospering family care farm sector without the risk of discontinuation. According to Polish law costs of care services are covered first by the client, then his/her family, and at the end the responsible gmina.

A separate issue is the financial support of the sector as a whole, which is necessary to implement and sustain the idea of social-care farming in Poland. Those are the funds for:

- training of social-care farmers;
- promotion;
- advisory services;
- information and knowledge exchange;
- mediation and negotiation of better conditions for the farmers;
- support in reducing the costs of family care farms, etc.

The acquisition of the funds for the above-mentioned tasks stays in the hands of the Supporting Bureau. Coverage of the initial investment costs of the establishment of family care farms may be possible by making use of European Union funds and other available funds. Another possibility is to involve different local and regional actors, for instance, through the board of Podkarpackie voivodship, neighbouring gminas and the city of Rzeszów, which are interested in the project running in the powiat Leżajsk.

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NOTES

¹ In the following chapter some specific terms like gmina, powiat and voivodship are used. Since 01.01.99 there is a three-level administrative division of the country:

- województwo – voivodship (often translated with province),
- powiat (often translated with district),
- gmina (municipality).

There are 16 voivodships, 373 powiats (among which 308 are territorial powiats and 65 cities with the rights of powiat) and 2489 gminas in Poland.

² Family care farm – name for a care farm in the project in Leżajsk that complies with Polish legislation (Act concerning Family Social Houses).

ANNEX 1. DESCRIPTION OF TYPES OF FARMS

*Types of farms as used in The Netherlands**The 'helping-hand' type*

The person who needs care goes to a farm and participates in the daily work that has to be done on the farm. In this type there are only 1 to 3 care questioners. Each person does that kind of work that fits close to his individual possibilities. The full responsibility for giving guidance by the work that has to be done lies with the farmer (and/or his wife). There is no formal cooperation with a social- or health-care institution. The care seekers do not need specialized care and they can reasonably work on their own.

The care branch business type

Besides the regular farm enterprise there is a commercial care branch enterprise. In this model 3 to 12 people can get the care they are asking for. Some of them may participate in the daily work that has to be done on the farm, but most of them will do activities specially created on the farm for them. Those can be gardening, caring for small animals, hobby activities, etc.; in general, activities that are useful and that fit close to the individual possibilities of the care-seeking people. There is a formal cooperation with an existing social- or health-care institution that takes the responsibility for the quality of the care that is given. Of course the farmer and/or his wife take their part in the caring and will be supported by the care institution. In this type it is possible that a number of farm households work together within an association and that the association cooperates with one or more care institution(s).

The institution care farm type

In this type the care farm is not a regular farm, but part of the care institution. The daytime activities and the occupational therapy are fully integrated into the specialized care. Care can be given at any time. The activities are created to fit closely the possibilities of the care seekers. The care institution needs to make heavy financial investments to establish a care farm within its organization. It should have at its disposal specific agricultural knowledge and certain recognitions and it has to take into account all kinds of regulations concerning agriculture.

CHAPTER 20

FARMING FOR HEALTH IN ITALY

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Abstract. The framework of Farming for Health in Italy is presented in this chapter. Starting from some historical features, we present practical experiences, institutional arrangements, relevant actors and main target groups involved in Green Care in Italy. The final result shows a peaceful but also dynamic situation from a geographical, technical as well as organizational point of view. Although mutually very different, Italian 'social farms' also share common features and some new arrangements. In any case most of the experiences are mainly informal and not well codified. Due to the lack of information, more details from some Italian regions are given in the text as well as some general conclusion.

Keywords: drug addicts; prison farms; therapy; rehabilitation; social inclusion; rural areas; social services

HISTORY AND DEVELOPMENT OF FARMING FOR HEALTH IN ITALY

Until after the Second World War, Italy was basically a rural country. In 1951 about 45% of the working population was employed in the agricultural sector. As the most important industry until a few decades ago, agriculture has a long history in integrating and socially including people with special needs. Although no specific historical research on Farming for Health (FH) programmes in Italy has been carried out so far, it is well known that in some particular fields social or therapeutic farming programmes have been carried for a long time. In order to understand the evolution of Green Care and FH programmes in Italy during the last decades it may be useful to present briefly the more general context in which health services are provided in this country.

The present national public-health system was established in 1978 with the institution of Local Health Authorities charged to provide, at no or low costs, both health and social services to all citizens. An important feature of the 1978 health reform was the shift from a national health service toward a decentralized system based on local health districts. In the same year a radical reorganization of mental

health care passed. The reform established a gradual shutting down of psychiatric hospitals and assigned prevention, care and rehabilitation in mental health to new community-based services. Compulsory admissions to psychiatric wards were regarded as exceptional, had to be time-limited, and were allowed only when outpatient interventions were ineffective or were refused by patients.

At present the Departments of Mental Health within the Local Health Authorities are committed to provide mental health care offering different kinds of services to the local population. In this context, a number of therapeutic and rehabilitative programmes for patients with mental disorders that deal with agriculture, horticulture and gardening have been developed in almost every region. Nevertheless, the awareness of the possibilities of plants in psychiatric rehabilitation does not seem to be consolidated in the country. Programmes based on Green Care run by the public sector tend to be marginalized by the Health Authorities, and there is little evidence on their efficacy because they received no specific attention by scientists and researchers in health care or in the psychiatric field.

A further therapeutic and rehabilitation domain with a relevant presence of farming, concerns drug addicts. Since the sixties, when drug addiction started to become a wide social and health problem, many care centres (often called 'Therapeutic Communities'), run either by public or third-sector organizations, settled in rural areas and involved patients in farming activities. Again, also in this field there is not much awareness of the therapeutic effects that dealing with plants may have on patients. In case of drug addiction, the choice of being in a rural, rather than urban, environment is usually preferred for its isolation from places where drugs circulate. In these communities, psychologists and social educators tend to consider farming more effective than other kinds of activities, since agricultural work is physically demanding, does not require high educational skills, has many and different duties, and the final products (food) may be consumed within the community. The healing properties of patients' interaction with plants and the therapeutic impact that this interaction may have appear to be overlooked.

A third field in which farming plays a rehabilitative role regards penitentiaries. A recent survey reveals the existence of authentic farms within many Italian prison walls, where dozens of inmates participate in farming activities involving plants as well as animals; the output is brought to internal or external markets, and agricultural activities are strongly preferred by prisoners. A governmental project, entitled *Agricola 2002*, funded by the Ministry of Justice, aims to extend farming activities in ten Italian penitentiaries. These types of farms are mainly part of the institute. At the same time there are also programmes that offer rehabilitative agreements with regular farms, mainly in forestry. The aims of the project are twofold: to improve farming within the institutes and to provide labour integration of former prisoners in regular farms. This is the reason why *Confagricoltura*, one of the most important national farmers' associations, is one of the partners in the project.

A further context in which farming plays a social role concerns the labour integration of individuals with intellectual or psychic disabilities.

While the other fields of FH (psychiatric care, drug addiction and prisoners work) aim primarily at therapeutic and rehabilitative outcomes, in this case social

inclusion is the main goal to be achieved through farming. The potential of agricultural activities to involve and integrate people with limited intellectual skills has been well-known in rural areas for decades. It should be noted that in the traditional peasant family the 'disabled' were unknown, at least as a specific category separated from the 'able', for all family members contributed to the running of the farm. Even those with reduced capabilities could perform a task, although limited or marginal. Disability became an issue of major concern when society moved away from the old rural economy and non-agricultural labour markets began to discriminate people with special needs.

In the domain of labour integration of people with disabilities many projects have been started throughout the country, mostly by so-called 'social cooperatives'. Social cooperation represents a growing movement in Italian society and the law grants the Type B social cooperatives the task of labour market integration of 'disadvantaged' people¹.

In 2001 the National Statistics Institute conducted a survey on social cooperatives. There were 1,827 Type B cooperatives, with an average of 10 disadvantaged members, half of which with some kind of disability. No information is available on the activities run by these cooperatives, but it seems reasonable to estimate that between 10 and 15% of them run farming-related activities and/or work in the field of the maintenance of public green spaces.

Beside agriculture and farming, a specific interest in taking care of plants and animals as a therapy arose at the beginning of the 1990s. In 1992, the Agraria School of the Park of Monza became involved in a horticultural-therapy project and started to offer courses in horticultural therapy. The Italian Horticultural Therapy organization was established in 1995. Several initiatives have been developed since, mainly in central and Northern Italy, based on the healing properties of plant interaction, but so far nothing close to a Community of Practice has been developed among the professionals involved.

FARMING FOR HEALTH IN PRACTICE – THE ITALIAN SITUATION

In Italy, like in other countries, it is not easy to define FH activities. There are experiments with many new ways to use agriculture in situations of social need. They vary from *educational farms* to *care farms* or to *farms for recreational activities*. There also is an increasing amount of experience in *public gardening* and in *rehabilitative programmes for prisoners* related to agriculture. In a different way, family farms were traditionally – and still are today – used to work in FH, mainly paying attention to relatives with specific health problems. In this report we mainly focus on *care farms* and on *recovery activities linked to biological processes*.

As already said, the Italian situation differs strongly from region to region and from one experience to another. From a geographical point of view, care farms are mainly concentrated in the central part of the country and slightly less in the North, with experience growing in a few cases in the South, mainly on the islands (Sardinia and Sicily). The total number of care farms in Italy can be estimated at about 300-350, with a positive trend during the last few years.

Experiences in Green Care are mainly on a voluntary basis and contractual agreements between public-health services and farms or social cooperatives are very locally based. For these reasons there are no databases at national and regional level.

Regarding differences within the cases, each situation arises as a consequence of the effort of a single person or a strongly motivated small group of people attempting to link agricultural practices and care services, sometimes without specific skills and with very little information. Without any exchange and working in a very informal way, different solutions were tested in each situation in order to challenge quite similar problems. This autonomous process resulted in different ways to operate in FH. This means that there are no formalized good practices in the field and quite often any experiment can offer specific solutions for different target groups and sometimes individuals. All this means that tacit and personal knowledge is more important in FH than formalized and scientific knowledge.

In order to give an idea of the different ways of care farming in Italy we will focus on the Tuscany and Latium regions where specific surveys on FH were organized by the Universities of Pisa and Viterbo, respectively.

FH in Tuscany

Much of the information comes from a direct survey organized during the period September 2003 – September 2004.

In Tuscany there are about 45 places where about 1,200 people with special needs have been active in FH for a long period during the last 20 years and 300 people had activities in the units for short periods. FH activities followed three different steps.

Many of the activities started in the 1970s following a first process of counter-urbanization when young urban social groups decided to move to the countryside in order to follow new life styles. Ethical behaviour was considered the baseline for the new life. Initially, many of them were not highly regarded by the local communities because they were seen as foreigners, not homologated, and the idea of accepting people with psychic or physical difficulties into communities or farms contributed to marginalize their activities. During those years people started to leave the psychiatric hospitals. Some of them were hosted on farms and until today they spend their time there (photo Paterna). Nowadays many of these first experiments in FH are still active and sometimes they are also quite well-structured farms at the same time running a good business. They have a long experience in FH and have been able to build quite strong local relationships with social services or other types of institutions (penitentiaries, juvenile courts).

The second step was mainly linked to the growth of a social cooperative movement. These were founded after the reorganization of the public social and health services. Quite often they were active in caring for the disabled and some started introducing agricultural practices in order to improve rehabilitative processes and/or established a farm to improve job opportunities and to provide a direct income to people ending the rehabilitative processes. In these cases, Green Care services were mainly provided and tested by social professionals. From this point of

view they were used to apply their own skills and knowledge but very often the weak point was the limited experience in farming normally run on a voluntary basis. Some of these cooperatives did not manage to overcome technical and economic difficulties. There were – and sometimes still are – two main problems: 1) to find job opportunities for people at the end of a therapy, and 2) the public services not recognizing or funding agricultural processes as therapy schemes. In both cases social cooperatives would run two different activities – social care and agricultural business – with very large difficulties.

At the moment a third step is in progress. New links among social professionals (public and private), associations and private farms are improving. Small local networks are starting, which increases the knowledge and confidence between farmers, people affected by social problems, and public territorial services. People with different skills can work together overcoming many of the earlier problems. Social structures and farms can work together once they have solved some organizational issues. At the moment there are two to three examples of this type at regional level: in one case the network was animated by an association that was able to involve local municipalities, public territorial services and two farms (see Box 1) in a rehabilitative process for 7 people. In a different case the public services involved local farmers' associations and municipalities in a local agreement. Educational training was organized for about 10 farmers. Six of them started with on-farm training of disabled people (see Figure 1).

Quite innovative green care examples are also arising. Young neo-farmers coming from the cities (sometimes psychologists or people with other skills than farming) are introducing a new way of thinking, improving the multi-functionality of agriculture and providing specific care programmes (mainly hippo-therapy or pet pet therapy, quite often related to children with relational difficulties (www.cavalgiocare.it)).

In order to monitor different experiences and to improve knowledge about them as well the exchange between them, a small database has been set up in Tuscany by ARSIA (Regional Agency for Development and Innovation in Agriculture). The database includes different typologies of care farms: 6 community farms, 15 simple farms, 16 social cooperatives with a farm or running agricultural processes, 4 associations working with farmers in order to improve social-care processes, 4 associations and foundations working with elderly people in order to rebuild public gardens and kitchen gardens. Some of these units are demand-based – especially when elderly people or family groups with disabled are involved. In other situations, demand was mainly organized starting from mutual knowledge of social institutions and farmers.

A network has been established with a newsletter and meetings throughout the year. A technical mutual advisory service is being tested in order to facilitate the exchange of experience following a problem-solving approach.

BOX 1	Farm: Colombini family farm. Main activities: Organic horticulture.
History: The Colombini farm is an 18-hectare family farm. The farm was converted from conventional to organic when Alessandro, the son of the family, started to work actively on the farm. At the moment the farm employs about 5 people and 2 more disabled workers were recently taken on.	
FH: In 2001 Alessandro was asked to collaborate in a project founded by a local association (ORISS) following an agreement with territorial public social services and local municipalities. The aim of the project was to include disabled people in agriculture. The Colombini farm decided to accept the proposal and started educational training of seven people involved in the project (mainly psychiatrically and physically disabled). Initially it was difficult to find the right task for each person but after some time they are able to match any needs and capabilities with different farm activities. After one year, two people were engaged in farm work and the other three are still on the farm as educational training.	
Knowledge: Alessandro and his family started to work with the seven people who had no specific knowledge. At the same time ORISS followed the process with specific social competencies. The association also helped the farm to enter into new networks. A Solidarity Purchase Group was established, together with new relationships with a local school to supply the canteen and Organized Distribution. This resulted in the Colombini farm strengthening its reputation in the area with good marketing results.	
Specificity: There are two main points in the experiment. The first one is related to the network established by ORISS which made it possible to build new relationships and to increase the local resources for health activities. The second one is related to the Colombini family. The people with different capabilities follow Alessandro and his family as a new driving force and this is also the reason why they enthusiastically follow the agricultural processes. At the same time they are really proud of their new jobs.	

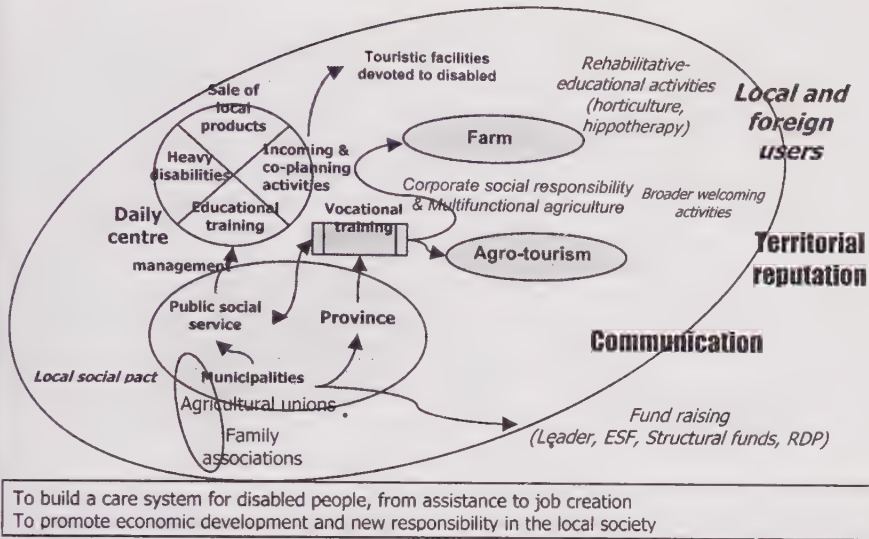


Figure 1. Building a local private-public network in FH in a Tuscan mountainous area

FH in Latium

Latium is a region in central Italy, on the west coast. Its main characteristic is the presence of Rome, the greatest municipality in the country. Farming activities maintain certain relevance in the total region. There is a considerable agricultural sector in the municipality of Rome, with some 37,000 hectares of arable land, mostly included in protected areas. Agriculture is highly diversified and almost all typical Mediterranean crops are cultivated. The average farm in Latium of only 3.4 hectares of arable land is significantly smaller than the national average. Although most of the regional farming sector is little market-oriented, agriculture and green spaces in general play a relevant role in the region, particularly in the area close to Rome. This means that farming activities in Latium show a considerable potential in the provision of healing services and in contributing to the social inclusion of fragile people.

The combination of a large population and vast agricultural and natural areas makes Rome the place where most of the Latium FH programmes are located. These programmes concern almost all different fields of Green Care and healing and social farming described above. As in the rest of the country, no inventory of Latium Green Care and FH initiatives has been made yet. Considering the wide variation in farming initiatives related with health, care and social inclusion, we will concentrate on three areas: horticultural therapy programmes, rehabilitative farming programmes within prisons, and social farming for labour inclusion of mentally disabled persons.

Horticultural therapy programmes

Although plant care has gained growing attention in Italy over the last decade, there is not much practical experience in Latium. Nevertheless, something is moving particularly in hospitals, homes for the elderly and in some public-health services. Hospital-related Green Care projects have been started in the Rome urban area. The objectives of the initiatives are related either to contribute to conventional therapy methods or to the more general field of so-called 'hospital humanization'. Against this background, the project *A garden for horticultural therapy*, undertaken at the psychiatric section of Grassi Hospital in Ostia, a suburb of Rome, should be mentioned. The section hosts patients with an acute psychiatric illness for a short period. A green area, with ornamental plants, flowers and a small vegetable garden, has been created in an abandoned courtyard and horticultural therapy activities have been started to bring patients relief and to create an environment that could help persons with communication difficulties to interact with other people.

Farming in prisons

As mentioned above, Latium prisons are among the public institutions with more attention for the therapeutic and rehabilitative role of horticultural and farming activities. Latium has 14 penitentiaries with a total inmate population of 5,750 (June 2004). Since the middle of the 1990s, five regional prisons have introduced farming inside the penitentiary walls alongside more traditional 'industrial' activities.

Relatively speaking, the number of captives involved in farming is very low, but it must be noted that only a minority of prisoners are actually working inside the prison. An exploratory survey, recently completed by the University of Tuscia (Giannini 2004), highlights some aspects of farming in jails and the healing benefits for the 'prisoner-farmers' (see Box 2). A number of inmates who participate in agricultural activities have been interviewed about their feelings when dealing with plants. There were several reasons why farming was found to be the preferred activity of the various working possibilities in jail. First of all, work is carried out in open-air spaces, which may be considered a scarce resource in prisons; secondly, plants are considered 'sincere' in the prison environment where distrust dominates. Moreover, the variety of tasks that may be performed in cultivating plants makes work more interesting and allows to acquire responsibility through the continuous decision-making process required in almost all single tasks.

All Latium penitentiaries together include 15 hectares of cultivated land, attended by a total of 50 inmates who generate, besides the therapeutic and rehabilitative effects on themselves, products worth more than 250,000 Euros, estimated at market prices, an amount that contributes to the self-esteem of inmates and challenges the dominant 'negative' public thinking about prisons.

BOX 2	<p>Farm: Velletri Jailhouse (Latium). Velletri is a town with 50,000 inhabitants, located in a hilly region 40 km south of Rome. The wine produced in this area has been celebrated since ancient Roman times.</p> <p>Main activities: wine production</p>
	<p>Farm: Velletri Jailhouse (Latium). Velletri is a town with 50,000 inhabitants, located in a hilly region 40 km south of Rome. The wine produced in this area has been celebrated since ancient Roman times. Main activities: wine production</p> <p>History: The prison was built in 1991 to host 200 inmates, but currently their number has increased to 350. Almost 5 hectares of farm land are found inside the penitentiary's wall and a farming programme was started in 1998. The first idea was to set up a small vegetable garden in order to introduce prisoners to plant cultivation. Recently, a much more ambitious project has been set up. Three greenhouses, with a total covered area of approximately 3,800 m², were built to extend production to a wide range of vegetables. Moreover, 2.3 hectares of vineyards and one hectare of olive groves were planted. Two years later, due to the presence of an oenologist among the prison inmates, an area for grape processing was created and in-jail wine production was started. The first bottle of wine was uncorked in November 2002 and in the following year 40,000 bottles were produced. The most innovative feature of Velletri's project concerns the marketing side. In 2003, an agreement was signed between the prison administration and the Type B social cooperative Lazaria.</p>
	<p>FH: The Lazaria social cooperative employs a small group of prisoners to run farming activities related to the vineyards and the grape-processing phase in the prison. The cooperative also became responsible for marketing the wine produced. In 2004 three different wines were presented at the most important annual Italian wine fair in Verona (<i>Vinitaly</i>) and recently a marketing agreement has been signed between the social cooperative and one of the largest Italian supermarket chains. At present, Velletri's jailhouse wines are sold in many restaurants, contributing to fight prejudices of citizens against prisoners and to improve the self-esteem of inmates involved who, although they cannot physically pass the jail walls, might do this, so to say, virtually.</p>
	<p>Knowledge: In this case the most important part of the professional work is based on direct manual work. Specific knowledge (e.g., oenology) was already available in the jail.</p>
	<p>Specificity: An 'Escapee' wine that promotes prisoners' social integration. At present three types of wine are produced at the winery of Velletri prison:</p> <ul style="list-style-type: none"> - the 'novello' (Italian word for 'new wine'), labelled <i>Fuggiasco</i> (Escapee), - a white Chardonnay called <i>Quarto di Luna</i> (Quarter Moon), to remind the night view of the moon from a cell, - a red wine named <i>Le Sette Mandate</i> (The Seven Turns of the Lock), to evoke the cell doors security closing.

Farming as a means of labour integration of people with disabilities

A third type of FH programme in Latium aims at the working integration of mentally or psychically disabled (see also Box 3).

'Social farm' is a new expression to refer to agricultural enterprises that employ disadvantaged individuals. Type-B social cooperatives represent an important instrument to bridge the gap between people with disabilities and the labour market. In Latium there are more than 400 such enterprises and, while several provide green maintenance services, only a dozen run farming activities.

Most of them operate in the green areas of the capital, close to urban areas with high population densities, with only a very few in relatively isolated rural areas.

These social enterprises are a sort of sheltered farms where social inclusion of persons with disabilities is achieved through the production of goods and services sold either to the public sector or on the market.

BOX 3	Farm: "La Fattoria Verde" Association. Main activities: Organic poultry and egg production.
<p>History: "La Fattoria Verde" was founded in 2002 to offer services to differently able people after an agreement with the Rome municipality. The association works on a public farm (Tenuta Albucceto a Palidoro). Aim of the Fattoria Verde farm is to improve environmental resources, buildings, as well as to offer social services with an economically viable dimension. Buildings were totally renovated thanks to the financial and human resources of the group. During spring 2003, the centre started a therapeutic process with a group of young people. At the same time they finished the renovation of the centre. The farm keeps about 300 hens on about 1 hectare. An intervention on the uncultivated area (a little forest with walnut and alder trees) allowed avoiding the abandonment of the land, where some rabbits live. There are also free-ranging ducks and geese in a large area. A fruit garden has been set up and the fruit is to be processed in a new facility where people may work and process the products of the farm.</p>	
<p>FH: Two groups cooperate with Fattoria Verde: the Social Coop Presenza and the OIKOS association, which all work on the farm with small groups of people (the target group is mainly autistic). The groups follow the farm activities and actively participate in running the farm. Participation, responsibility and a friendly environment stimulate reciprocity and the activity of the people involved. One of the main problems is related to financial resources and market opportunities for the products. Some donations helped in setting up the activities (from the municipality, from a local enterprise association, from the Netherlands Embassy, private citizens, cultural associations). New relationships are established with the Rome Province (for educational training) and with the CIA association (a farmers' association). The farm was also involved in an ESF Equal Project with the local municipality. It is intended to expand farm and processing activities in the next few years.</p>	
<p>Knowledge: The people in charge of the Fattoria Verde Farm only had personal experience with social care. They try to find information on Green Care activities by visiting and following other activities, sometimes abroad. They managed to build new relationships in the area involving private and public partners in the project. They are increasing their knowledge by working on the farm and collaborating with the staff of the social coops.</p>	
<p>Specificity: The farm is completely orientated to social care. It is organized in a self-sufficiency way, following the triple bottom line: environmental, social and economic viability. There is a strong integration between farm and local social cooperative. There is a strong family participation in the project as well. The initiative is considered a good example at local level and some family associations visit the farm in order to find new health solutions for their relatives. At the same time the farm does not succeed in receiving grants from the local public social plans, while well-organized private and public organizations normally manage to receive funds for their activities. The farm is marketing its products with a specific label 'twice tasty' in order to remember the quality as well as the ethical value of the products.</p>	

Common features in FH

Although mutually very different, 'social farms' share some common features. Firstly, most of them are organic farms. From a sociological point of view, organic farmers seem to be more flexible to extend their ethical attitude to new topics. For technical reasons, the non-use of chemicals and, more generally, activities that are friendly to the environment appear to be the natural choice when fragile people are involved. Other common features concern:

- daily activities (like in animal husbandry) and short-term cycles (as in horticulture) correspond with social needs for building new routines, and increase responsibility in people affected by physical or psychic problems
- diversification of cropping patterns. In order to guarantee the higher involvement of disabled persons, social farms always have several crops; to a certain extent they are all 'open' farms, in the sense that they run some specific activities or initiatives to attract the external community. Several have an on-farm shop where they sell their products; some are also 'educational farms' where families, children and entire school classes go to learn about nature and farming.

Social farms, more than other FH initiatives, tend (or should tend) to be business-orientated. Actually, the economic side in therapeutic, rehabilitative and social farming is often neglected. There is not much awareness of the therapeutic benefits of taking part in the open market. Too often, activities are conducted in a 'pretending to do' way rather than in a 'true' way when dealing with disabled persons, especially when they are mentally or psychically disabled. This attitude prevents to move from merely medical therapy to a more comprehensive social rehabilitation.

The basic resources for Green Care are always the same: time, space, biological cycles, contact with real problems, responsibility, the possibility to establish new relationships in a quiet environment, gaining new knowledge, starting with a job are the main resources of care farms, as well as daily dialogues in small groups or communities. Of course, different resources affect different target groups. Farms and social cooperatives are quite often specialized in specific groups – disabled, mentally and physically, people with drug addictions, alcoholics, young immigrants, prisoners, vulnerable children. This depends on the experience that has been gained and on the network that has been built over time. Sometimes it also depends on farm resources. It is quite common to find prisoners involved in forestry, while children are mainly welcome in groups and communities.

The people who drive the FH processes have quite different attitudes as well. People who live in a farm community are used to pay attention to social relationships and to welcome others. In this case mutuality is the mission and FH is an easy choice for them. The presence of a large group of people may help driving a process that involves a heavy responsibility and a lot of attention. In these cases, people may spend all day in the community, especially when lodging and indoor spaces are available. In case of a family farm, the main focus is on agricultural practice. Disabled people spend part of the day working on the farm and the other part in their own house or in a public environment. Farmers involved in care activities often increase their social/health knowledge themselves by working with

specific target groups. Nowadays, new initiatives start where public social services organize educational training for farmers in order to improve their capabilities and to improve the final social output of the process.

Social cooperatives start from a different point of view. They have professional skills in social and health care. The main problem for them is to improve their skills in agriculture and run an economically viable process in this field.

BUILDING THE ENVIRONMENT: ORGANIZATION, NETWORKING ACTIVITIES, POLICIES AND FINANCIAL SUPPORT

Organization of Farming for Health

Over the last few years, attention for FH has been increasing rapidly, together with the number of initiatives. New initiatives are growing besides older initiatives. As stated above, the units mainly work individually with few mutual relationships and sometimes there is a relationship with the public social services. At the same time a spontaneous process of joining mutual interests is growing.

There has been a clear change in the view on Green Care activities in Italy over the last few years. Some new initiatives are growing, mainly resulting from a bottom-up approach. Small agro-health chains are formed between different units (see Figure 2), whereas specialized units (social cooperatives, therapeutic communities) start with professional training and therapeutic practices with specific target groups. Specific agreements with local farms which are already orientated in social practices allow monitoring of the process and improvement of the personal abilities towards working in a more open structure. Sometimes, a well-known farm with a good reputation in an area may be asked by other farmers to train specialized workers. In that case the rehabilitative process may continue in more than one structure and may finish with a job location. This means that after the first initiative on a single farm, there nowadays are local initiatives involving farms, public social services, social cooperatives, municipalities and local associations. At the same time it is still difficult to link the local networks in a broader (regional or national) network. A regional network is growing in Tuscany but it is still informal and does not yet involve important regional bodies.

Two different events are also changing the attitude of farmers' organizations towards FH.

The first one is related to the change in the Community Agricultural Policies and to the debate about the European agriculture model. The idea of multi-functionality and growing competition at a global scale opens new horizons and new ways of farming. Re-formulating and broadening the activities in rural areas implies finding new on-farm activities and offering new services to local communities or to society at large. Against this background farmers associations in many areas are re-considering their view on Green Care activities and in many cases they organize new partnerships in order to improve local social services.

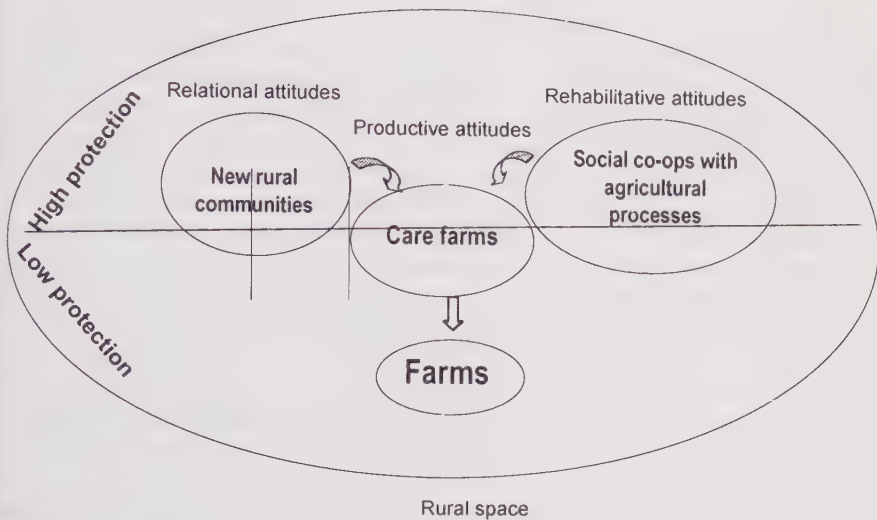


Figure 2. Formation of small agro-health chains between different units

The second point is associated with the change from the welfare state to a municipal welfare organization which also in Italy is increasing the relevance of local governance². Against this background new bonds are growing between local institutions, social cooperatives, farms, and – sometimes – volunteers in those areas where more initiatives are active. This means that expectations for the future are good. Multi-functionality and municipal welfare in rural areas are two keys for a new approach in FH. From this point of view the CIA (Italian Confederation for Agriculture) will be setting up a specific association for FH. The Coldiretti association is working at regional level (in Tuscany but also in other areas) in order to stimulate their members to increase their activities in FH. The same is happening with ACLI Terra, a catholic association involved in rural areas, partner in a national project on welfare in rural areas.

Financing structures of FH

Under national law there are schemes and opportunities for different kinds of activities that may only indirectly affect Green Care. Therapeutic communities for drug addicts are funded by the state and these are sometimes organized in a rural area while running agricultural processes. Social cooperatives that provide services for people with psychiatric or physical diseases are funded by the regional/local government, and they can define the rehabilitative process by introducing agriculture. In any case, there are no specific schemes or agreements among regional/national government and single local units.

Local agreements are more often funded trying to match the usual schemes with Green Care activities.

The following examples are illustrative:

- Emilio Sereni Cooperative is an organic dairy farm hosting people from the public services (drug addicts and alcoholics) for on-farm job experience. The cooperative does not receive any grants for this activity, which is run on a voluntary basis. The workers receive a low salary from the local services for daily subsistence.
- Zorn Farm is a family farm strongly involved in social services. They form a so-called 'house family' where disabled young people spend all day following on-farm activities (animal husbandry, horticulture, environmental services). The structure has been built and improved mainly with private donations. A recent agreement with the social services provides about € 40 per day for each person hosted.
- Archimede Social Cooperative works with disabled people. It normally works with a public scheme for educational training and the people involved receive a salary for a short period. They have decided to work mainly in agriculture. After the first courses they decided to establish a Type B social cooperative (for job inclusion for disabled persons) starting with horticulture and a nursery. The new cooperative runs an economic business but it cannot receive agricultural funds since it is not an agricultural enterprise.
- Paterna Cooperative is an organic farm, one of the first starting in the 1970s offering daily hospitality to a man who left the psychiatric hospital. They were offered a really low grant (about 50 € per month per person) for this activity, which they rejected. At the moment they host the man at no charge.
- Fattoria Verde Onlus (see also Box 2) mainly operates on a voluntary basis, with private donations and funding. They are trying to receive more public support but at the moment they only receive some indirect financial support through the social cooperative that participates in the project.

In some areas (see Box 1 and Figure 1) a partnership is established between public social services, municipalities, farmers and local associations. In these cases partners may also sign specific agreements in order to promote FH and to provide new social services. They are quite interesting but very locally based.

Policies that support or hinder FH

Empirical evidence in FH and dissemination of good practices for different target groups are also affecting public bodies. Public administrations are paying more attention to FH and they are working on the subject at different levels. At the moment it is really difficult to paint a clear picture of FH in Italy. At the national level, there are no initiatives from the Ministry of Agriculture or from the Social Affairs Ministry and the Sanitary Ministry. The only national initiative focusing on agriculture and rehabilitation is the earlier-mentioned 'Agricola 2002'. This project deals with the introduction of agricultural activities in penitentiaries to promote work integration and social rehabilitation of prisoners. The project, funded by the Ministry of Welfare with € 1,800,000 from the budget allocated to fight drug

addiction, involves ten penal institutions (four of them located in the Latium region, two in Tuscany and four in other Italian regions).

Agricola 2002 envisages the implementation of several farming activities (horticultural, floricultural, nursery, honey-bee keeping etc.) adopting organic methods. The use of these types of production methods is considered particularly suitable for drug addicts, who are used to inject themselves with synthetic substances. In Tuscany, a research action project funded by the regional government introduced an innovative scheme in the regional Rural Development Plan (RDP), including an innovative social, educational and formative project in rural areas involving about € 13 million and about 55 projects). In many cases the projects were directly or indirectly linked to Green Care (www.tramerurali.it). The measure mainly focused on public beneficiaries but the local partnerships scored very well during the selection, especially when the agricultural resources were actively involved in the project. In the next RDP (2007-2013) farms providing social services should also be funded.

Research and educational activities (and results) related to FH and the health-promoting effects of being engaged with plants, farm animals and landscapes

In Italy there is a gap between research activities and developments at the basis. Currently, the main research activities focus on the basic level in order to understand practices and experiences gained over recent years and to provide evidence for the phenomena. The implementation of FH programmes demands specific professionals who combine different knowledge fields. The national lack of these scholars is often considered the main restriction in FH programme management.

So far, the only educational course related to FH is taught at the Agraria School of the Park of Monza. Founded in 1920, the School is specialized in horticulture, tree and green-area management and represents one of the few centres in Italy for vocational education in the horticultural field. Since 1992 horticultural therapy has been a field of interest at the Agraria School, which has begun to collaborate with municipalities, psychical and social centres, local health authorities, social cooperatives, and non-profit organizations. A short course in horticultural therapy is currently taught at the School. This is a 32-hour course and the teaching programme concerns the psychical aspects related with disabilities and the use of gardening and horticulture to gain therapy and rehabilitation. The course is limited to 20 participants and the number of applications has been much higher in recent years, showing a growing demand by professionals to learn more about horticultural therapy and rehabilitation.

This evidence, and an increasing interest in the social function of farming, has led the University of Tuscia to launch a Master programme in Ethical and Social Agriculture. The programme originates from the training and research activities the Department of Agroforest Economics and Rural Environment of the University of Tuscia have been carrying out since 1999. Major fields of research concern: inventory and surveys of existing social farming experiences, identification of good practices in social farming programmes, planning and management of therapeutic,

rehabilitative and social farming programmes, economics issues related with social farming, ethical labelling of care and social farms' products. The Master course, limited to 30 participants, lasts 11 months and includes seminars, visits to FH programmes and two months training in one of the programmes.

The University of Pisa works in two different research networks. The first is mainly focused on social services in rural areas and to the relevance of rural agricultural resources in order to improve the local social network for different target groups (disabled persons, elderly people, youngsters and families with children). At the end of 1999 a research partnership was organized with regional farm associations, the Regional Department for Social Security and the Social Cooperative Koinè. A research action was organized in three different rural areas in order to understand local needs and to define new ways to provide social services in rural areas, including agriculture. The result of the research action project has already been mentioned above. In many cases agriculture was directly or indirectly involved in local partnerships and projects. Nowadays a monitoring project founded by the Regional Government is selecting good practices in order to share and transfer innovation and knowledge regarding new ways to organize social services in rural areas.

The second initiative is more directly linked to FH. A research group involving ARSIA (Regional Agency for Development and Innovation in Agriculture), University of Pisa (Agricultural Economics) and Paterna Cooperative was established in 2003. The aim of the group was to better understand ongoing initiatives in FH in Tuscany and to establish a network among them. During 2003 a survey was organized interviewing different local actors involved in FH and filling out a questionnaire. The group also facilitates meetings and joint study visits to regional and national initiatives. The group also facilitates a problem-solving approach, trying to discuss and find solutions for specific questions coming from the members of the network. In order to improve and consolidate FH in Tuscany the group is deeply involving regional policymakers. The objective is to formalize procedures, rules and agreements, in order to formalize the contribution of FH to the regional social services and to establish adequate measures.

Developments and relevant actors

The framework for FH in Italy seems to be heterogeneous but dynamic at the same time. A bottom-up process is moving from isolated initiatives to local, sometimes national networks. The Universities of Pisa and Viterbo follow direct research activities and exchange their own knowledge, and they are establishing and merging regional networks. National actors are also showing an increasing interest and activities in FH. Confederazione Italiana Agricoltori (CIA) and Coldiretti (the two main farmers' associations) are increasing their attention for Green Care. The organic-farming association would also better understand the phenomena. CIA would organize a national network for FH. In the past it organized an ADAPT project on Green Care. Recently it has also applied for European funds (EQUAL). The Ministry of Agriculture is funding a new research project on rural welfare. The

research team involves the University of Perugia, ACLI Terra (a catholic association) and IREF (a private research agency).

The Italian Leader+ observatory is organized by the INEA (National Institute for Agricultural Economics). Aim of the observatory is to facilitate relationships among different local action groups, define good practices, introduce new subjects in the network and follow the main results of the initiative. They have different communication facilities like internet, books and a review, and they also organize meetings and seminars. One of the first activities of the observatory will focus on the quality of life in rural areas. The framework above also works on a booklet on rural welfare and a specific number of the reviews will focus on rural welfare and FH. In early 2005 a national meeting on FH is going to be organized jointly by the Italian Leader+ observatory, ARSIA and the University of Pisa. At the same time, the University of Viterbo is organizing seminars on FH as well as an exposition space dedicated to FH in Verona Agrifood 2005, an international exhibition on food produce, safety and typical agro-foods.

All different activities try to consolidate the evidence of the subject and, at the same time, give more evidence to the practices and the subjects involved in FH. From this point of view there is a virtual circle covering FH. Knowledge and evidence of different experiments and results obtained with FH are increasing, as well as the number of actors involved in the subject.

Table 1 was made trying to involve the main organizations active in FH in Italy; this table cannot be considered fully exhaustive of the Italian situation. As already mentioned above, it is difficult to have a real framework in an informal context.

Difficulties are also still affecting the process. FH is mainly perceived as an uncommon as well as quite difficult activity. This idea restricts growth of the number of farmers involved. At the same time, networking activities among care farms, educational training activities, rural and social policies seem to be far lower than required to increase the awareness of FH.

Table 1. FH-relevant organizations in Italy

Name	Main activity	Web address	Activity in FH
ACLI/Terra	Farmers' Union	www.acli.it/acliterra.htm	Research
ARSIA (Regional agency for development and innovation in agriculture)	Technical advice in agriculture	www.arsia.toscana.it	Research action
Banca Etica	Ethical banking	www.bancaetica.com	Funds local projects with an ethical nature
CIA (Confederazione Italiana Agricoltori)	Farmers' Union	www.cia.it	Building a national network
Coldiretti (Coltivatori diretti)	Farmers' Union	www.coldiretti.it	Working in local initiatives
Concooperative	Consortium for cooperatives' political representation	www.confcooperative.it	Working in local initiatives
Horticultural Therapy Association	Advancing HT	digilander.libero.it/htitalia	Advancing HT
INEA (National Institute for Agricultural Economics)	Research and technical support for the government	www.inea.it	Communication and networking
IPAB (Institutions for Public Assistance and Charity)	Management of residential facilities for social targets, educational activities	www.socialinfo.it	Working in local initiatives/structures
IREF	Economic and social research	www.acli.it/iref.htm	Research
Legacoop	Consortium for cooperatives, political representation	www.legacoop.coop/	Working in local initiatives
MIPAA (Ministry for Agriculture)	National policies	www.politicheagricole.it	Policies and research
Parco di Monza	Research and education	www.monzaflora.it/	Education and practices
Tuscan regional government	Regional Policies	www.regione.toscana.it www.tramerurali.it	Policies and research
University of Perugia	Research and education	www.unipg.it	Research
University of Pisa	Research and education	www.unipi.it www.tramerurali.it	Research and action
University of Viterbo	Research and education	www.unitus.it www.agrietica.it	Research and action

SOME GENERAL CONCLUSIONS ABOUT FH IN ITALY

Development of FH in Italy does not seem very structured and depends on many aspects. Regional diversity, local traditional and cultural features, different historical backgrounds affect private and public behaviour as well as the consistence of specific groups of farms. Three different aspects may be highlighted:

- There is lack of evidence supporting the practices of Green Care, as well as their therapeutic impact. Also considering the long psychiatric tradition in a more open approach to mental disease, there quite often are no findings about the final

result of new therapeutic approaches related to agricultural processes. Without formal rules local solutions have to be negotiated each time and, sometimes, defined. As always happens without any formal procedures new settings may be defined. This means that there is no learning from collective experiences. Each time people learn just by doing and the final results are strictly linked to personal histories.

- The previous point means that there is no formal registration and evidence about the phenomena; this results in a lack of political and financial instruments.
- Initiatives in the past were often based on the ethical behaviour of farmers or professionals involved. Also today, this choice is principally based on personal gratification of the people involved. This is also why there is very little communication about realities. It is still considered wrong to use social activities as a means to improve one's own reputation. Starting from this idea, experiences are just occasionally shared with other groups of people and with the local society.

For these reasons it is still difficult to get FH in focus. Different stakeholders are unable to start networking activities and also facilitation is still a task for the long term.

At the same time there is increasing attention for the theme. This depends mainly on the effort that a few organizations (the Agraria School of the Park of Monza, specific associations, universities and technical agencies) are providing. External attention for FH increases the awareness of the regional and national – private and public – actors. From this point of view there are a new approach and a more open behaviour that facilitate communication about the experience.

There are also external conditions that are turning attention to FH. These are multifunctional agriculture and welfare municipalities. In both cases farmers' associations are looking at social services as a new opportunities for two different aspects. The first is to explore multifunctional possibilities in a field not very well known. The second is to improve the social network in rural areas and the characteristic features of rural culture. The idea is to establish new relationships among rural and urban areas, also with a complementary approach to social/health services. Urban and rural areas manage different kinds of resources. In urban areas scale economies stimulate the concentration of specialized services. In rural areas economies of scope³ fit the opportunities to produce soft social services both for urban and rural inhabitants.

The new attention of farmers' associations is also affecting the political arena. Partnership and negotiation are quite common in many political dynamics. Social services in rural areas and multifunctional agriculture are becoming more evident in the political debate, stimulating new ways of thinking about agriculture and new multidisciplinary approaches, also inside public administrations.

NOTES

¹ According to the Italian law, disadvantaged individuals are: prisoners, ex-prisoners and prisoners on release programmes, former drug addicts, the mentally, psychologically and physically disabled, alcoholics, working age minors in difficult family situations, and gambling addicts.

² Welfare community and FH: following globalization and the fiscal crisis of the state, the national welfare system is being reconsidered. A new welfare community is growing in order to meet local needs and to increase the promotion of local resources. In rural areas many resources are related to time and space management and to farms and agricultural processes.

³ Economy of scope: cost savings that are generated through the joint provision of several outputs as opposed to their separate provision. $C(x,y) < c(x,0) + c(0,y)$. In rural areas the provision of social services starting from rural resources may cost less than the provision of services in specialized structures (e.g. the use of agro-tourism resources during winter for elderly people instead of supported residence for elderly people).

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CHAPTER 21

AGRICULTURE AND HEALTH CARE

*The care of plants and animals for therapy and rehabilitation in the
United States*

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INTRODUCTION

Green Care, Farm Care, Farming for Health, terms that share similar meanings, represent a movement that is gaining momentum throughout Europe, Canada and New Zealand. This movement involves farmers and the health-care community collaborating to provide a healthful environment and economic stability to members of both communities. An integral and essential element of this movement is the responsibility for the care and nurturing of plants and animals in the context of a profitable agricultural business (the farm). This goes beyond the implementation of outdoor experiences that provide nature opportunities without personal responsibility for nature.

In the United States these terms are not in common usage nor is this philosophical approach to a new venue for sustainability of the small family farm apparent. The term 'Green Care' is more often associated with environmentally friendly forms of caring for the landscape, buildings, or anything that requires cleaning or care. 'Farm Care' seems to be used for businesses that focus on maintaining or enhancing the health of the farm. 'Farming for Health' is focused on the production of food that is more nutritious for the consumer; that is, a shift from 'farming for calories' to 'farming for health' (Phytomedics 2004). While the USDA acknowledges that improving human health is "a key component of the future of agriculture", it focuses on the production of food as the domain of agriculture (Welch 2004). Within this context, agriculture is not concerned with providing health-care service for clients in the health-care system, nor providing preventative

or therapeutic outdoor agricultural opportunities for the non-farming population of the U.S.

From another perspective, members of the modern medical and health-care community (including government bureaucrats) have, until very recently, failed to recognize the negative health impact of severely limiting opportunities for exposure to, or responsibility for, the natural environment by relocating the population from a rural to an urban environment over the last 100 years. Thus, an enormously important segment of agriculture and health care has remained outside of the arena of most government agencies and university scholars.

This attitude on the part of all the branches of the government has greatly limited the research and financial support that has been available to address the overriding issues related to the need to provide exposure to the natural environment to healthy individuals as well as those in treatment. However it has not eliminated the implementation of relevant programs within this area. Although Green Care or Farming for Health in the European model is not evident in the U.S. literature and there are no associations or government agencies giving leadership to such programs, there are a number of activities with relevance that should be explored.

BACKGROUND HISTORY

Agriculture in the United States

A recent CAST (Council for Agriculture Science and Technology) report discusses changes throughout the history of American agriculture. In 1880 the farm population included 21.9 million people, about 44% of the total U.S. population. By 1959, it had decreased to 16.6 million or less than 10% of the population. By 1991, it was 4.6 million or about 1.8% of the total U.S. population. Economists estimate that about 150,000 of America's 2.1 million farms produce 70 percent of the major food crops (Butler and Maronek 2002, p. 21).

The American farm mythology holds that farms are composed of family-owned and operated businesses in rural areas, which are somehow left pure from the corrupting influences of city life. Further, the primary goal of the farmer is to produce food at the lowest possible price to sustain the high quality of life with relatively little investment by American consumers, thus justifying government support of the enterprise. The agriculture community has been successful in this goal; in fact, food spending in U.S. in terms of the percentage of income reached a low of 10.9 % in 1996 (Illinois World Food and Sustainable Agriculture Program 2005), while in poor countries over 50% of income is spent on food (Traill 1999). However this has not been the result of the model that many Americans assume – the small family farm. The average farm size of 487 acres in 1997 was more than triple that in 1900 and more than double that in 1950, which reflects an increased concentration among large corporate farms, whose economies of scale, ability to benefit from farm policy, and productivity rates exceeded those of smaller farms. This transition has been seen most strongly in the areas of relatively low value per acre of agronomic crops and in beef and pork production. Such corporate farms lend themselves better to production models that are focused on technology to increase

productivity and profitability rather than schemes focused on human capital, such as Farming for Health.

Intensive crop production of high-value horticultural crops lends itself to successful production in areas close to the consumer market to better accommodate shipping and marketing. This means that despite widely held beliefs that agriculture in the U.S. is something that happens in the rural Mid-west, metropolitan counties have led other counties in total crop sales for fruits/nuts/berries, nursery/greenhouse, and vegetables/sweet corn/melons as well as total sales for dairy and poultry products and other livestock in the past five censuses (Butler and Maronek 2002, p. 24). In fact, since 1978, metropolitan counties have had the largest average and median number of farms. By 1997, metropolitan counties accounted for over one-half of all agricultural employment compared with non-metropolitan counties (Butler and Maronek 2002, p. 7). The share of metropolitan and adjacent counties was 68.8% of total crop sales compared to 31.2% share of non-adjacent, non-metropolitan counties.

There has been a continuing decline in the number of farms and farm population resulting, in part, from the economic crisis during the 1980s, the more recent restructuring of farm policy and the increased global competition. However, history suggests that because agricultural participants in metropolitan counties/states are closer to larger and more diverse economies, they have an advantage not only of higher per-acre value to crops but also of attaining alternative sources of off-farm employment and entrepreneurial links to consumers. This makes the farms in metropolitan areas suitable for inclusion in Farming for Health programs.

Health care in the United States

Health care in the United States for many years has been strongly directed toward a medical model that assumes that pharmaceuticals and surgery are the primary approach to a long and healthy life. A recent comprehensive paper looked at the history of health care in the United States (Fetter 2004). According to Fetter, the first modern medical school, Johns Hopkins, did not open until 1893, scientific standards of medical education were not generally established until 1910, and the Public Health Service did not emerge as a separate agency until 1912. As compared to European countries, the transformation of U.S. medicine in the early 20th century was extremely slow. In Europe, central government agencies – monarchs, parliaments and universities – played a central role in the establishment of scientific medicine. In the United States, in accordance with the 1787 constitution, states retain sovereignty in all matters not expressly delegated to the central government, thus leaving it with a relatively minor role in health-care policy and direction.

Before the New Deal (1933-45) and the Social Security Act (1935), the major federal-government-led program was to build a network of hospitals for World War I veterans in the 1920s. The Great Depression showed that neither private charities nor state and local governments had the resources to address the needs of the people. The most important step in increasing the federal government's role in health care was the Medicare and Medicaid legislation of 1965. Medicare, which covered

hospital and physician expenses for all citizens over 65, excluded items such as preventive care. Investment in health care has grown significantly since this legislation, with the federal government investing huge sums in medical research. Well-financed university hospitals developed top of the line procedures to treat the acutely ill. By the 1990s, all major elements in American health care were growing simultaneously. The combination of higher pharmaceutical costs, higher hospital costs and increased salary costs strained the resources of all levels of government. By 2001, health costs were consuming 14.1% of the Gross Domestic Product. The public sector, which includes the federal government [31%], the state governments [16%] and tax revenues [10%] now accounts for 57 % of all health costs. This may result in shifts away from the exclusive medical-treatment model, such as legislation recently enacted by Congress, which provides Medicare coverage for preventive procedures. In addition, there is an increase in research funds for alternative medical treatments that include adjunctive therapies such as horticultural therapy and animal-assisted therapy.

Mental healthcare has likewise evolved along a strong medical model focusing on physiological causes of the disorder and pharmaceutical treatments for most diagnoses. In the 17th and 18th centuries, people with mental illnesses were subject to great suffering; viewed as demon-possessed they were subjected to horrific treatment. In the early 1800s institutions for the mentally ill gradually became available. In 1843 there were approximately 24 hospitals – totalling only 2,561 beds – available for treating mental illness (Mental Wellness.com 2005). However, even into the 20th century individuals with mental illnesses were subjected to deplorable treatment. Physical and mental abuse was common with the use of physical restraints – straightjackets and other means of restraint including destructive brain surgery. Truly effective medical treatments for many people were not available until 1952, when the first conventional antipsychotic drug, chlorpromazine, was introduced to treat patients with schizophrenia and other major mental disorders. In the 1960s conventional antipsychotic drugs, such as haloperidol, were first used to control outward ('positive') symptoms of psychosis, bringing a significant measure of calm and order to previously chaotic psychiatric wards. Lithium revolutionized the treatment of manic depression. During this period nearly a half million individuals were hospitalized for psychiatric care in the United States. With the control of symptoms, mass deinstitutionalization began. Unfortunately, lack of outpatient programs for rehabilitation and reintegration back into society left many homeless.

By the 1980s rise of managed care – short-stay hospitalization with community treatment became the standard of care for mental illness. Over the next 20 years progress with pharmaceutical treatments (including treatment for schizophrenia and antipsychotic drugs) moved rapidly, along with brain imaging to better understand the development of major mental illnesses and genetic studies indicating that bipolar disorder may be inherited. Concomitant with the increase in pharmaceutical treatment was the decline in all other forms of treatment; thus the closing of many adjunctive-therapy departments and the restructuring or closing of many residential-care hospitals.

Today the settings for care and treatment include institutional, community-based and home-based care (U.S. Department of Health and Human Services 1999). Institutional facilities are generally residential and include public mental hospitals and nursing homes usually seen by patients and families as large, regimented and impersonal. Community-based services are located close to client's residences and may include small group homes, day-care services and outpatient care. Services are typically provided by community agencies and organizations. Home-based services include formal supports such as visiting-nurse care and informal supports such as family members provided in an individual's residence.

Agriculture and health care

Agriculture in some form has played a role in treatment, rehabilitation and/or residential care of individuals with disabilities throughout the last 200 years. During the 1800s as institutionalization became common for those with behaviour problems or other conditions that separated them from the norm, the farm was seen as an integral part of the facility. However in this context, the farm was not intended as treatment but rather as a way for those individuals who could not pay to be at the facility to earn their room and board. Observation of those individuals who were required to work lead to the recognition that staying occupied with responsibilities actually expedited rehabilitation and return to the community. This in turn led to the development of occupational therapy and all subsequent allied activity therapies.

One of the first people to recognize the benefit of labour for patients was Dr. Benjamin Rush, a professor of the Institute of Medicine and Clinical Practice at the University of Pennsylvania noted for his contribution to psychiatry. In his book *Medical Inquiries and Observations Upon Diseases of the Mind*, published in 1812, he reports that "It has been remarked, that the maniacs of the male sex in all hospitals, who assist in cutting wood, making fires, and digging in a garden, and the females who are employed in washing, ironing, and scrubbing floors, often recover, while persons, whose rank exempts them from performing such services, languish away their lives within the walls of the hospital" (Rush 1812).

During the 1800s both private and public psychiatric hospitals included agricultural components. From its opening in 1817 patients at the Friends Asylum for the Insane in Philadelphia were involved in vegetable gardens and fruit-tree planting (Friends Hospital 2000). In 1878 the Pontiac State Hospital in Michigan opened on 300 acres and made extensive use of farming and dairy projects. However, production was the chief goal, and any therapy these patients received was a fortunate by-product (Friends Hospital 2000).

In mid-century increased recognition was being given to progressive ideas on the care of the 'insane'. Dr. Thomas Kirkbride, superintendent of the Pennsylvania Hospital for the Insane and founder of the American Psychiatric Association, wrote in his book *On the Construction, Organization, and General Arrangements of Hospitals For the Insane With Some Remarks on Insanity and Its Treatment*: "The proper custody and treatment of the insane are now recognized as among the duties

which every State owes to its citizens..."; in order to aid recovery he encouraged them to work in the gardens or shops (Kirkbride 1854).

The actual establishment of a farm as a location for therapeutic and rehabilitation efforts has a long and varied history in the United States. One of the earliest such farm-based programs still in existence is the Berkshire Farm Center and Services for Youth, serving troubled children and their families. Started in 1886 on 580 acres in Canaan, New York, it was based on the philosophy that a stable, loving environment, contact with nature and emphasis on a strong work ethic could help 'wayward' boys overcome their past problems and start them on the road to better lives (Berkshire Farm Center and Services For Youth 2003).

Articles published during this period indicate a broad understanding of specific personal benefits to be gained from gardening. It was seen as helping not only mental patients, but also as easing the stressful lives of the urban poor and as an aid in teaching retarded individuals. In 1895, Helen Campbell, city missionary and philanthropist, Col. Thomas W. Knox, author and journalist, and Thomas Byrnes, chief of the New York police and detectives, published *Darkness and Daylight or Lights and Shadows of New York Life* (Campbell et al. 1895). They describe the impact of flowers on the poor, the infirm and prisoners. "Prisoners in the jail, men and women alike, stretch their hands through the bars for them, and there is one woman whose life, to the deep amazement of everybody concerned, has altered utterly under their influence." In *Working Women* (Ihde 2001) her efforts are discussed:

"Campbell describes in a chapter on Flower Mission work in prisons how 'Long Sal', horror of the city, came closer to reform thanks to the gift of a plant: ...Sal tended her geranium with devotion, sending it out regularly by the keeper for air and a sunning. It prospered, and as it grew something grew with it. When Sal's day of release came she looked at the three new leaves on her slip as if each one were a talisman, and the matron said to her: "When you are settled, Sal, and at work again, I will give you another plant". Sal was silent, but as she walked away bearing the precious baby geranium she cast back one look at the matron – an inscrutable look that might mean a fixed intention not to settle down at all, or a dim and undefined resolution to make the plant life a success whatever might come of her own ... it stands on record that Sal, though yielding now and then to her old temptation of drink, remained faithful to whatever pledge she had made the geranium, which grows still, a great plant, every leaf cared for to the utmost by the woman who was once the terror of the Ward."

E.R. Johnston cites the use of plants and gardens to enhance healing by mentally handicapped children in 1899 in the *Journal of Psycho-Asthenics*: "In the garden every sense is alert. How the eye brightens at the masses of gorgeous color and the beautiful outlines – how many things, hot and cool, rough and smooth, hard and soft, and of different forms are to be grasped and held by trembling uncertain hands whose sense of touch is hardly yet awakened" (Johnston 1899). The following year in the same journal, C. Lawrence in a paper *Principles of Education for the Feeble-Minded* discussed the helpful qualities of plants. "Don't talk to the child about numbers he said; but while he is learning to distinguish one flower from another, he will unconsciously learn the number of leaves, petals, etc. And, of course, a very dull child will take pride in having more flowers in his own garden than a playmate has in his" (Lawrence 1900). And in 1919, Dr. C. F. Menninger and his son, Karl,

established the Menninger Foundation in Topeka, Kansas. Fortunately, the Menningers had been brought up in an environment that recognized the values and qualities of plants. From the start, plants, gardening and nature study were integral parts of the patient's activity. Dr. Karl Menninger in later years described horticultural therapy as an activity that "brings the individual close to the soil and close to Mother Nature, close to beauty, close to the inscrutable mystery of growth and development".

Animals were first used in a hospital setting outside of the production farm in the U.S. in 1919. Franklin K. Lane drafted a letter to Dr. W.A. White, superintendent of St. Elizabeth's Hospital in Washington, D.C., suggesting that dogs be introduced as a source of entertainment for the men. Lane had been inspired by the veterans of World War I where "the lonesome boys in France found their dogs a great comfort and men with shell shock recover their balance by getting close to a dog" (Pettit-Crossman 1997).

As early as 1933 Dessa Hartwell wrote: "The curative influence of gardening on suffering humanity is scarcely dreamed of by the world in general. Even workers in the field of occupational therapy have hardly begun to realize the therapeutic effects of working in or with the soil and its products" (Hartwell 1933). And between 1920 and 1940 almost all Occupational Therapy (OT) books mention gardening as an adjunctive program. In 1942 the first horticulture course was taught in an OT program at Milwaukee Downer College, the first college to award a degree in Occupational Therapy (First course in horticulture for therapists 1976).

However, by the 1950s there was a significant shift away from the traditional farm-based institution as it became more cost-effective to purchase food for the kitchens of the facility from corporate agriculture. At the same time we see a vast moving of the population away from rural nature to 'modern' technology-based houses, jobs and lifestyles. Treatment facilities were increasingly based on a medical model targeted at curing symptoms rather than treating the whole patient.

During the 1940s and '50s, the use of plants and animals in treatment facilities becomes the responsibility of volunteers rather than medical professionals. In veterans' hospitals in the mid-1940s, volunteer garden clubs and horticulture-industry members brought flowers and plant-based activities to the hospitals. By the late 1950s Alice Burlingame, trained first as a psychiatric worker and occupational therapist then with degrees in landscape architecture and greenhouse production, worked closely with volunteers from the National Farm and Garden Bureau to establish horticultural-therapy programs. She also taught horticultural-therapy courses for OT externs at Pontiac State Hospital. In 1959, at Dr. Howard Rusk's famed Institute for Rehabilitation Medicine at New York University Medical Center, a horticultural-therapy greenhouse was opened. Sponsored by Mrs. Enid Haupt, the greenhouse was named, Garden of Enid. Recruiting garden staff for support often proved more successful than involving the medical staff. This ultimately led to the recognition of horticultural therapy as a profession. Rhea McCandliss, the chief gardener at an army base in Topeka, Kansas, from 1946-1953 under the direction of Dr. Karl Menninger became *de facto* one of the first professional horticultural therapists when she began working at Menninger Clinic (Relf 2005a).

During World War II, the Army Air Corps convalescent hospital in Pawling, New York, in cooperation with the Red Cross used animal-assisted therapy. Air Corps personnel from all areas of operation needed a regime of restful activity and were encouraged to work on the centre's farm with hogs, cattle, horses and poultry. These activities were discontinued after the war, not for lack of positive results, but as a cost-saving measure (Pettit-Crossman 1997).

In the area of Farming for Health, in 1947 the Ross Family founded Green Chimneys, located in Pelham County, New York. The organization was created as a private school to allow children healing benefits from interaction with farm animals (Green Chimneys 2005). In 1959 the first Camphill program was established in North America. Based on the philosophy that "the path to wholeness involves relationships of mutual respect, education and (or) meaningful work, real participation in community life, including community decision-making, a healing rhythm of daily activities, seasonal celebrations, a rich artistic and cultural life, natural therapies, and acceptance, individual recognition, and dignity for everyone". This path – which is created for all Camphill community residents, not just for those with special needs – is founded in the teachings of Camphill's founder, Dr Karl Koenig and the philosopher who inspired him, Rudolf Steiner (Camphill 2005). Also in 1959 the Colorado Boys Ranch was founded as a home for wayward boys. In response to a need for an alternative to correctional facilities for disadvantaged youngsters needing supervision, affection and guidance, the city of La Junta donated 350 acres including abandoned buildings used for military housing during World War II (Colorado Boys Ranch 2005).

In 1960 the first book of horticultural therapy was published: *Therapy through Horticulture*, written by Dr. Donald Watson and Alice Burlingame (Watson and Burlingame 1960). In 1963, with 6.5 acres of donated surplus land from the Federal Government, parents who had raised their mentally handicapped sons and daughters at home and had no wish to place them in an institution, established the Melwood Agricultural Training Center. Originally United Way dollars contributed almost 100% of the early years' annual budgets. Based on a new approach for the training and employment Melwood focused on a community-based on-the-job-training model (Wynn 1993).

In 1962, the integration of animal-assisted therapy into clinical psychology was first credited to the child psychologist, Boris Levinson, with his paper published in *Mental Hygiene*, *The dog as a 'co-therapist'*, reporting significant progress with a disturbed child when Levinson's dog, Jingles, attended therapy sessions. He introduced the term 'pet-facilitated therapy' (Levinson 1962).

Therapeutic riding centres developed throughout Europe, Canada and the United States during the 1960s. Based on earlier work done in Europe, the North American Riding for the Handicapped Association (NARHA) was founded in 1969 to serve as an advisory body to the various 'riding for the disabled' groups. By the 1970s, physical therapists in the United States began to develop treatment uses for the movement of the horse (Ride on St. Louis Inc. 2005).

In 1972, a program between the activity therapy department of the Menninger Foundation and the Horticulture Department of Kansas State University was established to train students undergraduate for the mental health field. This was the

first horticultural-therapy curriculum in the United States. Dr. R. W. Campbell at Kansas State University directed this program. The University of Maryland awarded a Master of Science in Horticulture for work by P.D. Relf in Horticultural Therapy in 1972. In 1973, Clemson University under Dr. Senn offered a graduate degree in horticultural therapy (HT). Also in 1973, Michigan State University started its undergraduate HT option in horticulture, which included 12 weeks of practical training at the Clinton Valley Center, formerly Pontiac State Hospital. In 1976 the University of Maryland awarded the first PhD in Horticultural Therapy to Relf and the next year Virginia Polytechnical Institute and State University started an HT Option in the Horticulture Department (Relf 2005a).

Earl Copus, director of Melwood Horticultural Training Center in Upper Marlboro, Maryland, organized a meeting of 20 people for April 9, 1973, including Dr. Conrad Link and Diane Hefley (Relf), University of Maryland, and Rhea McCandliss, Menninger. This meeting led to the first conference of the National Council for Therapy and Rehabilitation through Horticulture held in November of that year at the National Arboretum and USDA National Agricultural Library. By the end of the meeting, there were 85 paid members with Earl Copus as President and Council headquarters at Melwood, where staff assumed major responsibilities for its administration. The first issue of the newsletter (a mimeograph version) came out in spring of 1974. on January 1, 1975, Diane Relf, Executive Secretary President, moved the Council's office to space at the American Horticultural Society headquarters, River Farm, Mt. Vernon, Virginia, expanded the newsletter to a printed format and initiated the Lecture and Publications Series, hired an office manager for the organization, and led the organization to membership of over 800 (Relf 2005a).

The Delta Foundation (Delta Society 2005a) was established in 1977 in Portland, Oregon, under the leadership of Michael McCulloch, MD. According to their webpage:

"Delta's founders wanted to understand the quality of the relationship between pet owners, pets, and caregivers, both human and veterinary (hence the 'delta' name based on this triangle). At that time, pets were widely considered luxury or throwaway items, not of central importance to individual health and well-being. Delta's early years focused on funding the first credible research on why animals are important to the general population and specifically how they affect health and well-being. Early Delta members were primarily from the veterinary and human health professions and from university faculties. Once the importance of animals in everyday lives was established from this research, Delta began to look at how animals can change the lives of people who are ill and disabled. In the late 1980s, Delta began creating educational materials to apply the scientific information in everyday life. Membership expanded to pet owners and a broader general public. In the 1990s, Delta built on its scientific and educational base to provide direct services at the local level. This includes providing the first comprehensive training in animal-assisted activities and therapy to volunteers and health-care professionals. A significant advance was the development of the Standards of Practice in Animal-Assisted Activities and Animal-Assisted Therapy, which provides guidance in the administrative structure of AAA/T programs, including animal selection, personnel training, treatment plan development, documentation and more. Use of the Standards of Practice in Animal-Assisted Activities and Animal-Assisted Therapy provides a sound base on which to build quality AAA/T programs."

In 1987, American and Canadian therapists went to Germany to study classic hippotherapy leading to the National Hippotherapy Curriculum Development Committee which undertook development of standardized curricula on hippotherapy (Ride on St. Louis Inc. 2005). In 1992, the American Hippotherapy Association (AHA) (American Hippotherapy Association 2003) was formed. It established therapist registration and set standards of practice for hippotherapy. In 1999 The American Hippotherapy Certification Board was established and the first Hippotherapy Clinical Specialist (HPCS) examination was administered.

The People-Plant Council (PPC) was formed as a result of the interdisciplinary symposium *The Role of Horticulture in Human Well-Being and Social Development*, held in 1990 in Washington, D.C (People-Plant Council 2005). Since then a biennial multi-day symposium hosted by a university or botanic garden has been held to provide a forum on people-plant topics for researchers and practitioners in this interdisciplinary science. The mission of the PPC is to encourage and facilitate scientific research to document and communicate the effect that plants and horticulture have on human well-being and improved life quality. Its goal is to increase among all professional horticultural associations the inclusion of human issues in horticultural research as a segment of their mission. The PPC is not a membership organization, rather a link or affiliation between organizations that facilitates and promotes communication, research and public awareness on the psychological, sociological, physiological, economic and environmental effects of plants on people (Relf et al. 2004).

Linked to this whole area is the concept of designing a landscape for its therapeutic and treatment potential. The Therapeutic Landscapes Resource Center is a not-for-profit organization started in 2000 and dedicated to providing information to the public about restorative landscapes, healing landscapes, therapeutic gardens, healing gardens, wellness gardens and other research-based healthcare design (Therapeutic Landscapes Resource Center 2000). The Therapeutic Landscapes Database provides web-based information and creates a forum for discussion about therapeutic landscapes. You do not have to register or pay a fee to use the website. The American Society of Landscape Architects Professional Interest Group for Therapeutic Garden Design also hosts a website with an active list serve for discussions related to therapeutic landscapes (American Society for Landscape Architecture (ASLA) 2005).

NUMBER AND DIVERSITY OF AGRICULTURE AND HEALTH CARE PROGRAMS

From the above discussion it is clear that programs related to Farming for Health are beneficial for individuals in treatment or rehabilitation. These programs can be divided into several categories:

- Programs that utilize plants:
 - Horticultural therapy (horticulture therapy, garden therapy)
 - Healing landscapes (therapeutic landscapes, meditation gardens)

- Programs that utilize animals
 - Animal-assisted activity
 - Animal-assisted therapy (pet-assisted therapy (PAT))
 - Hippotherapy (horseback riding therapy)
 - Service animals
- Programs that utilize the farm setting with both plants and animals
 - Therapeutic or treatment farms
 - Business farms with special-needs clients as part of the economics.

Based on the diversity of target audiences, goals, activities, staffing/volunteering approaches and intensity of integration of the element into the program it would be logical to estimate the numbers in the hundreds of thousands for the first two but relatively few for the later (farming). To provide an overall picture of programming in this area, I will address common questions.

Who are the program clientele?

It can be hypothesized, without fear of overstatement, that among any population of individuals in organized treatment programs some are involved in either horticultural therapy or animal-assisted therapy or both. Currently it would appear from the literature and on-line information that the greatest focus for these two programs is among the aging population. However, animal-assisted therapy continues to grow rapidly in rehabilitation for physically and visually impaired individuals, and horticultural therapy is expanding among programs for youth-at-risk. Although horticultural therapy had its origin in programs for psychiatric patients and developmentally disabled individuals, shifts in treatment for these populations has altered the way therapeutic and rehabilitative programs are provided and thus how horticultural therapy is implemented. Psychiatric patients are treated with drug intervention and outpatient talk therapy, severely limiting the adjunct therapies previously used. Likewise, the inclusion of developmentally disabled youth in the general classroom has reduced the amount of programming targeted directly at meeting their needs. However, changes in the way that rehabilitation and therapeutic services are offered has occurred concurrently with new types of programs being developed. There are treatment programs to address physical, mental, psychological, social or spiritual needs. Treatment audiences include: individuals with AIDS, cancer or other health issues, acquired or genetic physical and developmental disabilities, dementia and Alzheimer's disease, brain injuries, chronic pain, substance-abuse problems and learning disabilities, adults and children with psychiatric disorders, mental retardation and developmental disabilities, speech and hearing impairments, physical disabilities and neurological impairments. Work with plants and animals is often part of these treatment programs.

Where are programs conducted?

The physical location of the plant/animal program is determined by its relationship to other programs in the facility.

Following are typical sites:

- Part of existing therapeutic program, offered in the same approximate location as the sponsoring therapy; i.e. a windowsill or patio garden as part of an OT Department, pet therapy in the activity room at a nursing home.
- A separate facility at a treatment setting but retaining identity with an established department; i.e., the vegetable farm as part of the work-therapy program in a prison, a greenhouse as part of vocational rehabilitation at a Veterans Hospital, rooftop gardens as part of physical therapy (PT) at a physical rehabilitation centre. An increasing number of health-care facilities also have large HT programs that employ one or more fulltime horticultural therapists and have extended volunteer and educational programs. One example is the Enid A. Haupt Glass Garden Program at the Rusk Institute for Rehabilitation Medicine (Rusk Institute for Rehabilitation Medicine 2005).
- Part of a larger, broad-based public facility established to work separately and specifically with health-care professionals and their clientele; i.e. animal-food gardens at a zoo with developmentally disabled clients, enabled gardens at a botanic garden, a school garden also used by the counsellor.
- Part of a private facility that has expanded its role to meet the health-care need of a target population, i.e. the greenhouse at a National Historic House that provides a training site for developmentally disabled clients of a local sheltered workshop.
- Public (universities, state agencies, parks) or private (corporation, developments) grounds that are maintained through contractual arrangements with a rehabilitation program or sheltered workshop.
- Treatment facilities affiliated with non-profit organizations developed specifically to provide plant- and/or animal-based programming to a targeted group (i.e. greenhouse operation established for treatment and employment of head-injured clientele, vocational horticulture programs for developmentally disabled).
- Treatment and/or employment facilities affiliated with for-profit business (i.e. horse farm, Community-Supported Agriculture farm for developmentally disabled).

Among the settings in which these forms of therapy may be offered are: services in psychiatric treatment centres, outpatient clinics, community mental-health centres, drug and alcohol programs, half-way houses, medical hospitals, senior centres, schools, psychiatric hospitals, community mental-health agencies, rehabilitation centres, day-care facilities, nursing homes, inpatient psychiatric unit, nursing home, state institution, geriatric facility, inpatient medical unit, group home, correctional facility, hospice, agencies serving individuals with emotional, developmental or physical disabilities, oncology treatment centres, pain/stress management clinics, and in special education settings where they provide either direct services to students with disabilities or function as consultants for special educators.

Who conducts programs?

Practicing horticultural therapists offer full-time services in many of the settings mentioned above; however, most programs in horticultural therapy (and as well as in

pet-assisted therapy) are conducted by allied professionals. These professionals include: physical, occupational, activity or recreational therapists; nurses, medical doctors, Doctors of Osteopathy; teachers; vocational rehabilitation specialists; prison guards, probation officers; and many other professionals in the health-care and special-services arena who have recognized the value of plants and animals to their clientele. And HT and PAT programs are usually part of a larger program and may have little or no budget or facility. Generally they are very limited in scale and dependent on volunteers for successful implementation and growth.

What are the program goals?

The specific goals of the plant- or animal-based activity are dependent on the agencies' over-riding goals. Because of the wide range of programs and facilities utilizing these activities it is useful to provide a framework for considering them.

Table 1. Overview of programmes with plant- or animal-based activities

Non-treatment – unstructured or undefined	
<i>Preventative</i>	Participation in the program will reduce the potential for future health-related problems.
<i>Recreational</i>	Participation in the program will intrinsically increase quality of life.
Treatment – written, measurable goals for an individual with a diagnosed problem in a treatment setting addressing that problem	
<i>Curative</i>	The individual is expected to overcome the problem completely and return to a life similar to prior to treatment.
<i>Rehabilitation</i>	The individual is expected to improve with treatment and maintain a quality life outside of treatment setting with a maximum level of functioning or to gain control through medication or behaviour modification that allows maximum functioning.
<i>Supportive</i>	The individual is expected to function semi-independently with support in employment and/or daily life activities.
<i>Enrichment</i>	The individual is expected to respond to treatment with an improved quality of life within the treatment setting.

Often volunteer-led programs, while in a treatment setting, are of the non-treatment type, which is not to infer that they are not an important addition to the quality life of the individuals involved. However, the treatment-based programs are designed for/by professionals to enable third-party payment (insurance, government agencies) for services rendered or to justify direct out-of-pocket payment by the client.

The goals of programs, which should include both long- and short-term goals, are sometimes stated in nebulous terms such as improved health, happiness, well-being or quality of life. For treatment purposes they must be further clarified and measurable. While those in the health-care field utilize more technical terms for goals, the actual plant/animal-based program goals can be divided into the following areas:

- Physical – positively influences the function of the body's systems or the body as a whole, from building muscular strength to movement rhythms; from weight loss to fine motor skills. (For example, the horse's walk provides sensory input through movement, which is variable, rhythmic and repetitive.)
- Intellectual – positively influences knowledge, skill development, memory, thought organization, verbalization, etc.
- Social – enhanced interaction with other individuals for stronger bonding to individuals and community. This may be as simple as increased eye contact or time spent in the presences of others.
- Psychological – improving the emotional response to our immediate environment and perceived conditions. This may take different forms including psycho-physiological (measurable by the body's response such as lower blood pressure in response to lower stress), psycho-social (self-reported measurements such as reduced feelings of anger after viewing plants) or psycho-cognitive (observation increased attention to task in presences of plants).
- Spiritual/philosophical – enhanced perception regarding the value and meaning of life.

What activities are used?

The activities that are used in effective programs are as varied as the participants, facilities and professionals conducting the program. Within horticulture-based programs both food and non-food crops are used extensively. Size and intensity can range from making cuttings of indoor plants to running large greenhouse operations; from tomato container gardens to market gardens; from pulling a few weeds to contractual landscape maintenance of large facility grounds. In general, animal-assisted therapy is conducted on a small scale with either a staff member caring for the facility cat/dog or bringing in their personal pet; trained and certified volunteers bring in their certified cat or dog; or the individual clients visiting a facility where they can have interaction with the animal. Other types of small animals including rabbits, ducks and chickens, may be used in specific programs. The clear difference with the animals in these types of programs compared to the farm programs is that they are treated as non-production animals. Hippotherapy focuses on actually riding the horse and requires space for the animals as well as the clients. Farm programs often have vegetable gardens and large animals (cows, goats, llamas) as well as small ones. While some may be treated as pets, production and marketing for both crops and livestock is an integral part of what occurs.

It is useful to consider the activities in terms of the level of responsibility the client has for the life of the plant or animal in seeking to understand the nature and cause of benefits that may be gained:

- Milieu – the plants and/or animals present a setting that is intrinsically therapeutic but is completely cared for by others; i.e. Wandering Garden for Alzheimer patients.
- Responsive – the plants and/or animals are responsive to the individuals in the treatment program but completely dependent on others for care; i.e. visiting pet
- Responsible – the plants and/or animals are in danger of being harmed or dying if the client does not fulfil his/her duties in nurturing the life in his/her care; properly making cuttings, watering plants, feeding the animal on a schedule.
- Consumer – the products and/or by-products of the plant and/or animal are used in treatment programs such as cooking, crafts, shows and demonstrations, etc.

Some individuals may only experience one level of responsibility within a program while others may experience several levels. This may influence results, in terms of meeting the goals of a specific activity; for example someone working in the greenhouse making a dried-flower picture from flowers they helped grow, harvest and dry may respond differently to the activity as compared with someone working in a windowless hospital room with flowers purchased and donated by a stranger.

How are programs funded?

The size, goals and staffing create the framework for how programs are funded. Small integrated programs are usually funded through the existing budget of the facility or donations (often in-kind in the form of supplies) from volunteers, local businesses or family of participants. As programs increase in size (and thus costs) local foundations and other charitable organizations have an increasingly important role in funding. In addition, self-generated revenues through sale of products (produce, houseplants, etc.) or services (grounds maintenance) begin to be anticipated. When the program is a reportable part of the treatment plan for the client, funding sources expand significantly. Start-up funds and capital improvements (building a greenhouse or a riding rink) are frequently one-time grants either from foundations or government agencies (local, state, regional or national) that serve the needs of the clients in the program. Or they may take the form of low-interest, government-sponsored loans. Operational expenses are largely fee-for-service-to-clients from appropriate private (insurance) or government sources. Clients may be receiving treatment funding from one or more agencies at all levels of government (local to national) such as vocational rehabilitation, public education, Medicaid, etc. In addition, a significant portion of daily expenses at many programs is covered by contributions and/or by business endeavours. Contributions take the form of cash donations, materials and supplies, facility space, and volunteer/expertise time. Business endeavours are significantly larger and more structured than those previously mentioned. For examples of such businesses see the last section of this paper.

Healing landscapes

The number of healing landscapes is difficult to approximate, as such gardens could exist in any of the health-care or human-service facilities in the U.S. In addition, as most communities have laws requiring some form of landscaping as part of their overall building code, it is possible that claims may be made for 'healing landscape' that in fact represent a poorly planned landscape that is anything but healing. The purpose of the healing landscape is to provide a location for communion with nature but not for responsible interaction. A healing landscape does not require the presence of professional staff to interact with the client. Designs based on research and teachings of the leaders in the field (Sam Bass Warner, Claire Cooper Marcus, David Kamp) are building a strong discipline, and a significant amount of information is rapidly becoming available to support the use of such landscapes (American Society for Landscape Architecture (ASLA) 2005).

Terminology regarding the landscape in health care is not clearly defined but divisions and definitions have been put forward for consideration (Relf 2005b).

FUTURE TRENDS AND CHALLENGES

Despite the limited official recognition at this time, the potential for growth in the field of Agriculture and Health Care (care of plants and animals for therapy and rehabilitation) in the United States is quite positive. Organizations for networking and professional development exist in both the areas of plant and animal care as it relates to health care (Appendix I). There are many resources for education and training for professionals and volunteers (Appendix II). Arboreta and botanic gardens are taking leadership roles as well in program development and training (Appendix III). A number of USDA programs could easily be expanded to meet the needs of individuals working in this area (Appendix IV). In addition, throughout the United States there are many examples of highly successful programs (Appendix V) that can serve as models and inspiration.

However, one factor that has not been taken into consideration in this discussion and that may have a significant negative influence on implementation of a model in which clients of health-care programs are integrated in working farms that are expected to be self-supporting from the agriculture-commodities perspective, is the enormous potential cost of liability insurance. The few members of our society who hold the right to sue above the right to buy lottery tickets cause others to be extremely cautious about exposing themselves, their home and their livelihood to the public. Opening a farm to individuals with such significant disabilities that they cannot live on their own and become part of society-at-large maybe seen as highly risky by America's small family farmers. Unless adequate safeguards are in place to ensure that farmers are not at risk to lose their farm to a lawsuit to compensate someone when "a disabled family member is traumatized by the threat of being licked by a cow", in the U.S. the Agriculture and Healthcare model is likely to evolve differently from the European model.

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APPENDIX I

ORGANIZATIONS AND TRAINING PROGRAMS FOR NETWORKING AND PROFESSIONAL DEVELOPMENT

Horticulture- and plant-related organizations

American Horticultural Therapy Association (American Horticultural Therapy Association (AHTA) 2005b) is the only national organization concerned with the promotion and development of Horticultural Therapy programming, providing resources to professionals to expand the field of practice, including peer-reviewed registration.

Gardening for Good (Gardeners of America 2004) is a national non-profit organization that reaches out to professionals, individuals and caregivers with ideas and programs that help older adults continue to enjoy gardening and nature.

Meristem (Meristem 2002) is an educational, not-for-profit organization based in New York City. The organization's mission is to promote nature's role in the improvement of human health and well-being through the development of restorative gardens in health-care environments

American Society for Horticultural Sciences (American Society For Horticultural Science (ASHS) 2005) is the association of members of the academic community and serves as the "cornerstone of research and education in horticulture and an agent for active promotion of horticultural science".

American Community Gardening Association is a membership organization composed of people working in and supportive of community gardens. The community-garden effort may take many forms such as: school gardens, neighbourhood plots, community greening projects and therapeutic and teaching gardens, and can be in urban and rural settings. "The Association recognizes that community gardening improves the quality of life for people by providing a catalyst for neighborhood and community development, stimulating social interaction, encouraging self-reliance, beautifying neighborhoods, producing nutritious food, reducing family food budgets, conserving resources and creating opportunities for recreation, exercise, therapy and education" (American Community Gardening Association (ACGA) 2004).

The American Association of Botanical Gardens and Arboreta (American Association of Botanical Gardens and Arboreta 2005) is the association for North-American public gardens and their professional staff.

National Garden Association (National Gardening Association 2005) promotes home, school and community gardening as a means to renew and sustain the

essential connections between people, plants and the environment. Major program focuses on Kid's Gardening (Kidsgardening.com 2003).

American Horticultural Society (American Horticultural Society 2005) is one of the oldest national gardening organizations in the country. Since 1922, we have provided America's gardeners with the highest-quality gardening and horticultural education possible.

Men's Garden Clubs of America (Gardeners of America 2004) promotes men in gardening, and the Garden Club of Georgia's 2003-2005 administration has adopted a four-part community-service project entitled Plant 4 People (Garden Club of Georgia Inc. 2005).

Animal-related organizations

Delta Society (Delta Society 2005c) is an international, non-profit organization that unites people who have mental and physical disabilities and patients in health-care facilities with professionally trained animals to help improve their health.

National Service Dog Center (Delta Society 2005d) is a web-based Delta Society program, provides information and resources for people with disabilities who are considering getting a service dog or who are currently partnered with a service dog. The NSDC also provides resources for people with disabilities who have access problems entering the workplace and other public places with their service dogs.

Therapet Animal Assisted Therapy Foundation (Therapet Animal Assisted Therapy Foundation 2003) is a non-profit organization whose mission is to facilitate the use of animals in the healing and rehabilitation of acute and chronically ill individuals.

Dog-Play (Dog-Play 2004) is a service owned and operated by Diane Blackman. It provides articles, information, advice and opinion on our relationships with our dogs. At the site there is also information about the Pets in Prisons and Rehabilitation Program (Dog-Play 2003).

North American Riding for the Handicapped Association, Inc (NARHA 2005) founders established several objectives for the Association, two of which are operating-centre accreditation and instructor certification. These continue to be NARHA's most important programs.

American Hippotherapy Association (American Hippotherapy Association 2003) promotes research, education and communication among physical and occupational therapists and others using the horse in a treatment approach based on principles of classic hippotherapy. Registered therapists in hippotherapy are located throughout the United States.

APPENDIX II

TRAINING FOR PROGRAM PARTICIPATION OR CAREERS

While the number of training programs that support a career in horticultural therapy are limited, the American Horticultural Therapy Association (American Horticultural Therapy Association (AHTA) 2005a) provides information and links to several avenues to consider for those who want to integrate horticultural therapy into their career, including:

- Bachelor's degree or option in Horticultural Therapy
- Associate's degree in Horticultural Therapy
- Certificate in Horticultural Therapy (Horticultural Therapy Institute 2005)
- Individual coursework in Horticultural Therapy

One increasingly important source of volunteers for HT programs is the USDA Cooperative Extension Master Gardener Program (Dorn and Relf 2001).

According to the Delta Society (Delta Society 2005b), while the numbers of certificate programs and degree programs that specifically include AAT as part of their coursework are increasing, relatively few exist across the United States. Information about some of these programs follows. There may be additional educational programs not included here. If you learn of other options not listed, please ask them to send us information about their program so that they may be included and the list may be more complete. The Delta Society makes no guarantees about the course content of these programs and encourages you to search carefully for the program that will best meet your needs. Delta Society's Pet Partners® (Delta Society 2005e) trains volunteers and screens volunteers and their pets for visiting animal programs in hospitals, nursing homes, rehabilitation centres, schools and other facilities. Pet Partners Program was established in 1990 to ensure that 'both ends of the leash', people as well as animals, were well-prepared to participate in animal-assisted activity and animal-assisted therapy programs. Pet Partners is the only national registry that requires volunteer training and screening of animal/handler teams.

APPENDIX III

THE ROLE OF ARBORETA AND BOTANIC GARDENS

To support and enhance (and often initiate) these programs, many botanic gardens in the U.S. have a horticultural-therapy program with one or more registered horticultural therapists on staff. These programs rarely if ever see clients on site, but rather focus on outreach programs to establish programs at facilities throughout the community. Noted ones include: Holden Arboretum (Holden Arboretum 2005), Chicago Botanic Garden (Chicago Botanic Garden 2004b) and the North Carolina Botanical Garden (North Carolina Botanical Garden 2005). They offer training for professionals and volunteers as well as demonstration gardens both for professionals and public visitors who are interested improving their own gardening skills after an injury or stroke. However, other botanic gardens such as the Norfolk Botanical Garden have developed programs in cooperation with other agencies to serve clients directly through programs that support the goals and mission of the garden and the agency (Norfolk Botanical Garden 2005). The Horticulture Enrichment Learning Program is a non-residential, intensive day-treatment program designed to assist alienated, older youth in becoming invested in self-improvement, their community and their future. The Garden's therapeutic setting is used as a treatment tool for esteem building, role modelling, intense counselling and behaviour modification.

In addition, the education departments at botanic gardens are playing an important role in the profession. For example, the New York Botanical Garden (New York Botanic Garden 2005) has pioneered in the training of HT in their school, and the Chicago Botanic Garden has developed a Horticultural Therapy Certificate (Chicago Botanic Garden 2004c) and a Healing Landscape Design Certificate (Chicago Botanic Garden 2004a).

APPENDIX IV

USDA IN AGRICULTURE AND HEALTH CARE

Although the USDA does not have any programming targeted at supporting health-care programs, it does have a number of programs addressing the small farmer and children that currently serve a population including disabled and at-risk individuals. There are several established networks of USDA professional that have the skills and know to further the agenda of Farming for Health should that initiative become established in the U.S. The most important among the current programs are:

- **AgrAbility** is a large and active USDA program in support of disabled farmers targeted at ensuring that they can stay on the farm. While this program is focused on employability of the farmer himself the methods for successful farming have significant implication for use on a farm refocused on providing a treatment milieu for a client. The AgrAbility Project (AgrAbility Project 2005) was created to assist people with disabilities employed in agriculture. The project links the Cooperative Extension Service at a land-grant university with a private non-profit disability service organization to provide practical education and assistance that promotes independence in agricultural production and rural living.

The AgrAbility Project assists people involved in production agriculture who work both on small and large operations. The Cooperative State Research, Education and Extension Service (CSREES), an agency of the U.S. Department of Agriculture, administers the AgrAbility Project (Cooperative State Research Education and Extension Service (CSREES) 2005b). While the USDA administers the AgrAbility Project, the Project funds both a National AgrAbility Project and several State AgrAbility Projects. In partnership, the National AgrAbility Project Staff at the University of Wisconsin – Extension, Cooperative Extension Biological Systems Engineering Department (866-259-6280) and Easter Seals (800-914-4424) provide training, technical assistance and information on available resources to the State AgrAbility Project staffs. The State AgrAbility staff provides training, site visits, on-farm assessments, technical assistance and other information directly to the farmer or rancher with a disability. Please refer to each State AgrAbility Project web page for more detailed information about their State AgrAbility Project. In 2004, twenty-four AgrAbility projects now engage Extension educators, disability experts, rural professionals and volunteers in offering an array of services, including:

- identifying farmers with disabilities and referring them to appropriate resources;
- providing on-site technical assistance on adapting and using farm equipment and tools, and on modifying farm operations and buildings;
- providing agriculture-based education to help prevent further injury and disability;

- providing training to help Extension educators and other rural professionals upgrade their skills in assisting farmers with disabilities; and
- developing and coordinating peer support networks.

The national staff will also provide direct technical consultation to consumers, health and rehabilitation professionals and other service providers on how to accommodate disabilities in production agriculture. For example, staff can assist fabricators with designing hand controls for a tractor. In addition, national staff can provide members of other national and international agricultural and health-related organizations with information and resources to help farmers and ranchers with disabilities. Those eligible for AgrAbility services may have any type of disability – physical, cognitive or illness-related.

- **Community-Supported Agriculture (CSA)** was introduced to the United States from Europe in the mid-1980s. Consumers who are interested know the source and production methods for their food; they pre-purchase a share of the production from a farmer at the start of the growing season, thus providing guaranteed markets for the crops. Currently there are an estimated 400 CSA farms in the U.S. (Alternative Farming Systems Information Center 1999). This initiative is closely linked to USDA programs such as Sustainable Agriculture Research and Education (SARE) and Alternative Farming Systems (AFS). None of these programs have expanded to address the health aspects of time on the farm; however, the close relationship between the farmer and the customer makes this type of farm suitable for development of other client–farmer models of conducting a business such as presented by a Farming for Health model.
- **Small-farm support programs** (Small Farms@USDA) is another USDA program that potentially offers relevant support should a Farming for Health initiative be established in the U.S. Although this program focuses on research and outreach programs to increase small-farm sustainability through improved marketing and production, it has begun to address alternative income sources such as agro-tourism. It offers a potential for funding of research and education in the future and has a strong network established. Related to this area, the Community Food Security Coalition (CFSC), with over 325 member organizations, is an example of a non-profit organization that shares interests and concerns compatible with Farming for Health. It is dedicated to building strong, sustainable, local and regional food systems that ensure access to affordable, nutritious and culturally appropriate food for all people at all times. It seeks “to develop self-reliance among all communities in obtaining their food and to create a system of growing, manufacturing, processing, making available, and selling food that is regionally based and grounded in the principles of justice, democracy, and sustainability” (Community Food Security Coalition (CFSC) 2005).
- **Community gardening** in many cities has been sponsored through the Cooperative Extension Service of the USDA for increasing local food security while at the same time providing for community coalition and cohesiveness. Much of the work has been in low-income areas and with people with special needs that might otherwise have been directed to other government service

programs. In many areas, Master Gardeners have played a valuable role in the establishment and maintenance of programs. There are several sources for additional information on this work (Municipal Research and Services Center of Washington (MRSC) 2005; Nagai 2004; Urban Community Gardens 2005; USDA 1998; City Farmer 2005)

- **Youth and school gardening.** Programs to provide education and experience to school-age children offer tremendous opportunity to meet the needs of special-needs children including those in treatment setting, youth-at-risk and disabled youth in the community. Three USDA Extension programs are particularly relevant:
 - 4-H (4-H 2005) and 4-H USA (4-H USA 2005).
 - Children, Youth and Families at Risk (Cooperative State Research Education and Extension Service (CSREES) 2005a), and
 - Agriculture in the Classroom (Agriculture in the Classroom 2005).
 - Virginia Tech Cooperative Extension provides a web site that links to a wealth of on-line resources for developing youth gardening programs. There are all kinds of free publications, lesson plans and other information and ideas in nine categories listed (Virginia 4-H 2005).
- **Cooperative Extension Master Gardeners** (Virginia Cooperative Extension Master Gardeners 2005) are extremely active in providing extension-led programs for youth in public schools as well as other settings, and conduct highly effective horticultural-therapy programs in teams with therapeutic professionals.
- **Transition from other crops to horticultural crops** (Cooperative State Research Education and Extension Service (CSREES) 2005c). CSREES facilitates transition from other crops to horticultural crops to sustain agricultural production in the ever-expanding interface between urban and rural communities. Enterprises of all sizes look to horticultural crops for economic success because of their high value per unit area of land and resource inputs. The production techniques on many of these crops may facilitate incorporation of health-care clientele.

APPENDIX V

PROGRAMS EXAMPLES

The remainder of this paper will look at programs identified through the world-wide web and providing information on their goals and activities. They are divided into three groups: general farm-based, primarily horticulture-based and primarily animal-based.

Farm-based programs

Berkshire Farm Center and Services for Youth (Berkshire Farm Center and Services For Youth 2003) is a statewide non-profit social-service organization with a 116-year history of success working with at-risk children and their families. Known for its outstanding residential-treatment program for young men, Berkshire Farm is also a pioneer in responding to local needs and helping to create stronger communities around New York State with community and school-based programs for both boys and girls. In addition, the Farm provides secure and non-secure detention for youth who are awaiting action on court cases. Collaborative efforts with other child welfare agencies, places Berkshire Farm in the vanguard in juvenile justice and youth support services.

On any day, Berkshire Farm is serving 10,000 boys and girls and their families. About 63 percent of the children served in all programs experience success in Berkshire's programs, returning to or remaining in school through graduation, and having no further contact with the legal system.

Expanded over the years through donations and purchases of land, Berkshire's Canaan campus now comprises some 1,700 acres. Berkshire's residential-treatment centre in Canaan serves some 600 young men annually from urban, suburban and rural areas throughout New York State. The agency has nine regional and district offices around the state as well as additional satellite locations. Examples of agriculture-related work include students learning about sheep in 4-H and to care for horses in after-school programs.

Colorado Boys Ranch (Colorado Boys Ranch 2005) founded in 1959 is a national residential-treatment facility that provides mental-health services and accredited education to at-risk boys, ages 10 to 21, from Colorado and across the United States. Located in the rural city of La Junta, CBR serves youth who have concurrent psychiatric, behavioural and educational problems that prevent them from successfully functioning in their homes, schools and communities. The Ranch's mission is *to achieve excellence in providing troubled youth with the means to become hopeful and productive citizens*. In addition to academic classes, vocational education, animal-assisted therapy, and individual and family counselling, residents also benefit from the rural location, community support and strong emphasis on post-discharge care.

Using a variety of animals from hamsters and fish to dogs and horses, animal-assisted therapy provides an opportunity for boys to give and receive unconditional acceptance and love. Boys learn about proper care, handling, nutrition and health care for animals. They also learn to have compassion, gentleness and respect for animals, other people and themselves. Program elements include:

- The horsemanship program spans a broad range of activities: chores, grooming, riding, training, showing, health and nutrition. Besides the fundamentals of horsemanship, boys learn the essential nature of teamwork and self-control. The horsemanship program is accredited by the North American Handicapped Riding Association (NARHA).
- Small-animal therapy, boys work with a variety of creatures, including llamas, goats, cats, dogs, ferrets, guinea pigs, rabbits, chinchillas, birds and fish. They research the physiology and environment of the animals, and the boys take responsibility for their feeding, grooming and overall care. Through working with these smaller creatures, boys understand the fragility of life. They learn to control their aggression, curb their tempers and acquire gentility. They realize that violence, to which many of them have become accustomed, is not a healthy way to communicate and that living creatures, animal or mankind, respond positively to a loving touch. For some of our boys, it is the first time they have experienced a healthy relationship with another living being. The non-threatening nature of the animals also helps youth tolerate more threatening stimuli, such as exploring their painful pasts.
- New Leash on Life is a comprehensive dog-training program which pairs a CBR youth with an abused, abandoned or neglected dog from the county animal shelter for 10 weeks. Youth are responsible for feeding, grooming and simple training of their dogs throughout this time. At the end of 10 weeks, each boy takes his dog through the American Kennel Club's Good Citizen Test, after which the youth presents his canine to a loving family for adoption.
- Members of the Ranch's 4-H program undertake individual projects involving horses, cattle, rabbits, goats and crafts, which they may enter in local fairs. As a result, they learn leadership, responsibility and social skills while having fun.
- The Cattle Program educates youth about livestock, range management and agribusiness. It also teaches responsibility and leadership, promoting cooperation, optimism and hard work.

Green Chimneys (Green Chimneys 2005). Founded in 1947, Green Chimneys is the nationally renowned, non-profit agency recognized as the leader in restoring possibilities for emotionally injured and at-risk children. Recognized as the worldwide leader in animal-assisted therapy, Green Chimneys operates residential treatment for children and a special-education school. Its mission is to help children reclaim their youth and the chance for a bright future through specialized treatment and educational and recreational services. Each year, Green Chimneys' restoration system gives hundreds of children and their families the tools that enable them to experience their youth positively, to regain a sense of self-worth and to create hope for the future as independent, positive and productive adults. Green Chimneys provides innovative and caring services for children, families and animals, and

targets its services at restoring and strengthening the emotional health and well-being of children and families, and fostering optimal functioning and independence. It strives to develop a harmonious relationship between people, animals, plants, nature and the environment through an array of educational, recreational, vocational and mental-health services. It is a voluntary, non-sectarian, multi-service agency.

Today, the agency serves children and adults with handicapping conditions and regular children and adults from New York City, the mid-Hudson region, Westchester and Putnam counties, and the counties of western Connecticut. To date, the agency is considered the strongest and most diverse of its kind involving farm, animal, plant and wildlife assisted activities. Program elements include:

- **Farm and Wildlife Conservation Center** houses a large collection of permanently disabled birds of prey and assorted wildlife. A licensed rehabilitation and rescue service is in continuous operation. **Supervised work crews including a lawn maintenance service**, a restaurant and a bottle redemption program under contract with the Connecticut Department of Mental Retardation (CTMR).
- **Bonibel Organic garden.** In addition to serving as a horticulture-therapy site for the children, the organic garden has a vegetable and plant stand that is open during the summer, providing fresh, organic produce and flowers to the community at reasonable prices. Maple sugar, harvested by the students, is also on sale.
- **Farm on the Moo-ve.** This is an educational, animal-awareness program that brings farm animals and their student care givers to schools, fairs and other public sites within a 60-mile radius of the Brewster facility – whether it is for a special event or an educational learning experience.
- **Therapeutic Horseback Riding.** Green Chimneys is a NARHA premier accredited centre and offers therapeutic riding.

Crossroads Group Home (Crossroads Group Home 2002) treatment program is based on the Green Chimneys model written by Dr. Samuel Ross of Brewster, New York, using an animal-assisted therapy program stressing the benefits of animals and birds of many varieties. Crossroads is the first group home in South Carolina to use animal-assisted therapy in the treatment of sexual-abuse victims. Pattered after Green Chimneys in Brewster NY, Crossroads is located on more than 10 acres of land at the foot of the scenic Blue Ridge Mountains in Greenville, South Carolina. Established as a residential treatment centre in 1993, the group home provides treatment for girls from 10 to 18 years old who have been physically, sexually or emotionally abused.

Having animals in one's environment facilitates a variety of benefits such as reducing stress related to PTSD and hastening recovery. Residents take part daily in the routine of a working farm, including the care of over 75 animals that live on the centre's 10+ acres. Although the mere presence of animals is therapeutic for the residents, nurturance with sexual-abuse victims is the chief benefit. Children who are emotionally scarred as a direct result of some type of abuse also benefit from the rehabilitation component of the AATP. Residents at Crossroads Group Home participate in the Crossroads 4-H Club as an integral component of the AATP. The

Clemson University Extension service chartered the Crossroads 4-H club in September of 1994. Extension agents as well as team leaders facilitate 4-H groups on a weekly basis addressing various topics directly related to the Crossroads AATP. Outings and projects such as Farm City Days, sponsored in conjunction with the U.S. Department of Agriculture is one example of the versatility of experience through 4-H. Other AATP groups are held weekly according to client needs as set forth in ITPs. Groups are an important part of each day's routine. Groups are held addressing topics such as habitat for specific animals, the development process of animals, care, feeding and training.

Camphill (Camphill 2005) is dedicated to social renewal through community building. It specializes according to the age group of the people it serves because the developmental needs of children, young adults and mature adults differ and, thus, the therapeutic approaches for people with developmental disabilities differ according to their age. Camphill in North America consists of ten independent communities, home to over 800 people on over 2,500 acres of land, which is cared for utilizing organic and biodynamic methods.

Camphill is a worldwide movement dedicated to community living that supports and values the contributions of all community participants without regard to their financial assets or their intellectual or physical capabilities. Camphill communities have taken up many tasks. Among the most prominent in North-American communities are:

- Providing education, advocacy, therapeutic care and other services to support people with special needs and help them participate fully in the world as contributing citizens.
- Caring for and healing the earth, together with people with special needs, through sustainable and healthy methods of consumption, agriculture and use of natural resources.
- Creating new social arrangements and intentional relationships that nurture the growth and development of individuals and families, inwardly and outwardly.

Dawn Farm (Dawn Farm 2005) is a private, non-profit organization offering co-educational, drug-free programs based upon the principles of Alcoholics Anonymous, licensed by the Michigan Center for Substance Abuse Services (CSAS), and accredited by the Commission for Accreditation of Rehabilitation Facilities (CARF). A strong work ethic and meaningful work activities are an integral part of the treatment process. During initial treatment, residents participate in two group therapy sessions a day, a variety of supportive activities and numerous AA meetings each week. In addition, work therapy enables residents to learn basic work habits, responsibility and self esteem. Residents are involved in farming – planting, harvesting and caring for livestock.

Horticulture program focus

Red Wiggler Community Farm (Red Wiggler Community Farm 2005) was founded by Woody Woodroof in 1996 to create meaningful, fully included jobs for adults with developmental disabilities through the business of growing and selling

high-quality, home-grown vegetables in Montgomery County, Maryland. The backbone of the farm is its Community-Supported Agriculture (CSA) program, which, by its nature, creates and nurtures a healthy and inclusive community. It also works to provide opportunities for area youth to participate in small-scale farming. Finally, all its activities occur in cooperation with nature and through the lens of environmental stewardship. The Red Wiggler method of farming aims to create fertile soil that will yield healthy plants and abundant harvests. This healthy and abundant environment is the base for the horticultural-therapy program. It uses cover crops, natural fertilizers and compost to enrich our soil. It cares for its four acres of vegetable plants without the use of chemical fertilizers, pesticides, herbicides or fungicides. Most of the jobs on the farm are completed without the use of tractors. Rather, they use their hands and simple hand tools throughout the workdays. By using these simple tools and “old-fashioned” methods of farming, they create jobs that are available to people with all levels of abilities. For instance, a driver’s license is needed to drive a tractor, but no license is needed to weed a row of plants with a hand hoe.

Its mission is to provide and cultivate:

- Meaningful employment for adults with developmental disabilities. Its growers – adults with developmental disabilities – plant, care for, harvest the crops and meet the customers who buy their produce. For many of its growers, their relationship with Red Wiggler goes back 8 years and provides them with employment as well as vocational satisfactions they would not otherwise enjoy. Adults with developmentally disabilities are its primary target population.
- Educational opportunities for area youth to participate in all aspects of the growing cycle. Youth with and without disabilities join the farm team to ensure that the vegetables and flowers are given what they need. They help with harvests and often glean food from the fields for delivery to area food banks. Area youth are the second target population.
- Environmental stewardship. It actively preserves open farmland, creates and maintains fertile ground using sustainable agricultural practices and opens its doors to groups interested in visiting the farm to see how they make it all happen in concert with nature. Those who participate in the CSA program and the general public who learn from Red Wiggler about environmentally friendly farming practicing are the third target population.

Moody Gardens in Galveston, Texas (Moody Gardens 2005a) began in the mid-1980s with only a horse barn and riding arena. The purpose was to begin a hippotherapy riding-program for people with head injuries, but it has expanded beyond the original goal to become an integral part of the general community while still serving their original targeted population. Today Moody Gardens is one of the premier educational/recreational facilities in the Southwest. It also provides horticultural therapy, education and employment for persons with a wide range of physical and emotional disabilities. According to their website: Hope Therapy at Moody Gardens (Moody Gardens 2005b) was inspired by the son of Foundation Trustee Robert L. Moody, who sustained a head injury in an automobile accident and who subsequently discovered the healing benefits of therapy utilizing animals

and nature. Opening in January 1986, Hope Therapy became the cornerstone of Moody Gardens, an internationally recognized program offering rehabilitative horseback riding (Hippotherapy) to mentally and physically disabled individuals. Today's Hope Therapy offers horticultural therapy, through which individuals with disabilities can improve sensory awareness and motor abilities, regain confidence and learn new skills to prepare for employment opportunities. The massive greenhouse and Rainforest Pyramid at Moody Gardens are tended in large part by these special clients. Vocational training, or supported employment also is an important part of the program. This provides the opportunity for individuals with disabilities to develop the necessary skills to gain and maintain a job. Moody Gardens employs many of these individuals on a full- and part-time basis. Job coaching is provided as needed. Elements added to Moody Gardens to expand the community involvement include a convention centre, Palm Beach (a man-made exotic family beach), The Learning Place (home of educational programs), a large production area and water treatment plant (takes effluent from Galveston's water treatment facility and treats and polishes it for use on all exterior landscaping), a Medicinal Plant Program, The Rain Forest Pyramid, IMAX 3D Theatre Complex and Visitor Center (houses the Garden Restaurant and Dancing Waters light and fountain show, and America's first IMAX 3D Theater, which showcases films by some of the world's top filmmakers), Discovery Pyramid, 303-Room Moody Gardens Hotel and The Aquarium At Moody Garden.

Log Cabin Boys Ranch is the San Francisco Juvenile Probation Department's detention centre for boys 15 to 18 years old, nestled in the Santa Cruz Mountains. The very urban youth incarcerated there are learning native-plant propagation, habitat restoration and organic farming – employable skills – and at the same time contributing plants and produce to community projects back home (Van Cleef 2001). The horticulture program was begun in the early 1990s by the Juvenile Probation Department as one of the vocational training courses the kids are offered – photography, culinary skills and carpentry are some of the others. SLUG (the San Francisco League of Urban Gardeners) was brought into the project in 1997 to expand the program and offer its unique therapeutic twist. According to SLUG's project manifesto, the organization believes in "the power of the garden to transform individuals and community". In the program, the teens farm 4 acres of land and work in a fully operational, large-scale nursery. The food they produce is sold regularly at farmers' markets, and is used in SLUG's gourmet product line, Urban Herbs. The native plants are used by SLUG, San Francisco's Recreation and Park Department, and other landscapers to restore or landscape open spaces and community gardens. These community projects, in turn, can be potential sources of employment for the teens upon their release – a system SLUG calls "community revitalization in full circle".

Melwood (Melwood 2003a) is a leader in the advancement of services for people with developmental disabilities. For more than 40 years Melwood has provided opportunities and choices for independent living, vocational training, employment, community involvement, recreation and travel. Fully accredited, nationally and internationally recognized programs serve over 1,800 people with disabilities each year, throughout the greater Washington, D.C., metropolitan

community. Melwood has over 40 years of experience and success in the landscape and horticultural services field. One of the primary programs is a contractual grounds maintenance business currently serving customers with thousands of acres of grounds, throughout the D.C. metropolitan area (Melwood 2003b). They provide many aspects of grounds services, including, but not limited to: turf maintenance, landscape design, installation of plant materials, erosion control, and display-bed maintenance. In their own greenhouses they produce plants sold to the community and used in their landscaping projects.

Urban Meadows (Urban Meadows 2005) was established in 1998 by Thresholds Rehabilitation Industries, Illinois' largest and the nation's leading psychiatric recovery centre, as an outgrowth of its horticultural-therapy program. Its mission is to provide jobs, job training and self-sufficiency to individuals with a serious mental illness. Urban Meadows is more than a psychiatric vocational rehabilitation program: it is a commercial flower shop located in the lobby of its the Lurie Company's classic landmark building at 120 South LaSalle Street in Chicago's financial district. This exceptional location has enabled Urban Meadows to vastly increase its public exposure and sales. It is a place for its employees, who are mostly Thresholds members, to work on their recovery from a mental illness through the use of flowers and plants.

Animal-based programs

Tranquility Farm Equestrian Education and Renewal Center, Inc. (Tranquility Farm 2005) is a non-profit organization whose main goal is to develop a symbiotic relationship between man and equine to help deal with high stress, trauma, a physical, emotional or situational problem or injury. Its focus is on the therapeutic relationship between horse and rider as part of the healing process. Participants learn about themselves and others by participating in activities with the horses, and then processing feelings, behaviours and patterns. A bond with a horse will build confidence, improve communication skills, gain personal insights and develop new and effective tools to deal with life's challenges. Horses are very much like humans in that they are social animals with distinct personalities, attitudes and moods. The farm matches up horses to the needs of their partners and they teach and learn from each other.

Gambrel Farm (Gambrel Farm 2003) is a breeding and training facility located on western Washington State's little-known Key Peninsula. The farm is on a gorgeous cross-fenced 30-acre parcel of rolling pasture and forest, with extensive facilities including an indoor exercise area, outdoor arena, barn with 14 large stalls, 9 paddocks and numerous run-ins, a round pen, a pond, and enough varied terrain for young horses to learn their herd manners, go through woods and water, and graze to their heart's content.

After 30 years in the horse business, breeding primarily award-winning Arabians, the farm discovered the Haflinger through a series of happy accidents. The process of helping children attach to a loving animal friend, with the overall objective of rebuilding trust towards humans, is called AAT. When children have

lived in chaos and abuse, the disruption it causes in the bonding process leaves them distrusting and weary. There is nothing as well-suited as a Haflinger to begin the healing process. At the farm they give each child their own Haflinger to ride and care for. The children are given riding lessons that translate into riding experience on the trails and later in the mountains or on the beach. They share in chores, thus building a sense of community and helpfulness as they work together. The way they feel when others come to visit and they get to show off what they can do with their own horse, builds a sense of pride unmatched in any previous life experiences. Knowing that they are involved in something many others only dream about also builds self-esteem.

Animal-assisted therapy in counselling and school settings

Recent research and experience has demonstrated that the use of dogs as 'co-therapists' may be of assistance to counsellors in counselling with withdrawn and non-communicative counselees. The use of animal-assisted therapy (AAT) and animal-assisted activity (AAA) may be another useful tool, which could be offered in counsellor education programs and in school counselling programs (Chandler 2001).

Tracy Roberts brings her two Australian shepherd dogs, Lucy and Dottie, to school to act as teacher's aides in the fourth- and fifth-grade classes at the **Canterbury Episcopal School** in DeSoto, Texas. Lucy and Dottie are reported to be a comfort to the kids and a welcome relief from the stress of school. Dena Carselowey and her Labrador retriever, Buggs, are 'co-therapists' at Minneha Core Knowledge Magnet Elementary School in Wichita, Kansas. Each of these dogs provides unconditional acceptance the moment the student enters the classroom or the counsellor's office. Often the students will come to see the dog and stay to talk to the counsellor while they pet and play with the dogs. When animals are used with the school counsellor, the students often use the dog as an excuse to go see the counsellor. These animals enable the counsellor to interact with many more students than would normally be the case.

Shiloh Project (Shiloh Project 2005), a non-profit, tax-exempt 501(c)(3) organization, is a Fairfax County, Virginia-based non-profit organization teaching juvenile offenders and youth at-risk compassion, respect and responsibility toward animals and others through the experience of socializing and interacting with rescued homeless dogs. The Shiloh Project offers a rare and unique opportunity for juvenile offenders and youth at-risk in the Fairfax County community to participate in the experience of socializing and interacting with rescued homeless dogs.

CONCLUSIONS

CHAPTER 22

FARMING FOR HEALTH ACROSS EUROPE

Comparison between countries, and recommendations for a research and policy agenda

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INTRODUCTION

This paper integrates data from the various country papers and presents the main differences and similarities of Farming for Health (FH) characteristics between countries. The country papers are the first product of the Community of Practice 'Farming for Health' that was initiated in 2004. Participants from twelve European countries and the US decided to write the state of the art concerning FH in their country during a first meeting in April 2004. After the country papers were written, a second meeting took place in March 2005. During this meeting recommendations for a research and policy agenda were formulated. These recommendations are presented at the end of this paper.

For many countries it is still not possible to give a good overview of FH. In most countries there are no organizations that are familiar with all existing initiatives. However, the different contributions make clear that FH is growing in the agricultural and health-care sector. The term 'Farming for Health' comprises a wide spectrum of different kinds of social agriculture in the different countries. The following categories can be distinguished:

- Green Care farms represent a working environment where a diversity of target groups is performing meaningful activities.
- Horticultural therapy, therapeutic horticulture, healing gardens and healing landscapes. Plants, horticulture, gardens and landscapes are used in therapy or in a recreative setting in order to improve well-being or to reach predefined goals.

- Animal-assisted therapy, education and activities. Animals are used in therapy or in a recreational or educational setting in order to improve well-being or to reach pre-defined goals.

As the various chapters in this book show, in some countries one of these categories is dominant, whereas in other countries all categories have been developed to some extent (Figure 1). The general similarities and differences between countries will be presented and discussed.



Figure 1. Focus of Farming for Health in different countries

GREEN CARE FARMS

Development and number of Green Care farms

It is striking that in all countries initiatives for Green Care farms have mainly been taken by farmers and not by health institutions. Green Care farming started as a bottom-up process. Apparently, farmers' objectives form the main driving force for the development of Green Care and not the demands of the health sector. The number of Green Care farms differs considerably between countries. Leading countries are Norway with 550, The Netherlands with 430, Italy with 300-350, Austria with 250 and Flanders with 140 farms. This corresponds with 1, 0.5, 0.01, 0.1 and 0.4% of the total number of farms, respectively (LEI 2004). In countries like Slovenia, Sweden and Finland Green Care farms are a new phenomenon. For other countries like Switzerland and the United Kingdom it is not possible to give a good estimate of the number of Green Care farms. In the Emmental region of Switzerland, Green Care is well known. In the village of Eggiwil, 17 out of 240 farmers participate in Green Care activities. This illustrates that in certain regions like the village of Eggiwil, up to 7 % of the farmers perform Green Care activities.

The situation in Germany is somewhat different. In Germany health institutions have created labour units to integrate disabled persons. Of the 630 labour units,

approximately 150 have an agricultural or horticultural section. Unlike in the other countries these working units have not developed from existing commercial farms.

It appears that the importance of Green Care is not primarily determined by the general farming condition in a country. European countries present a huge diversity of farming conditions. In some countries like Slovenia and Italy the average farm size is less than 10 ha. In countries like Slovenia, Austria and Norway agricultural land has limited productive capacity due to unfavourable natural conditions. In countries like The Netherlands, Belgium, United Kingdom, Sweden and Finland, the average farm size is more than 20 ha. The average economic size of farms ranges from less than 10 ESU (unit for economic size: 1 ESU = 1200 European Currency Units) in Slovenia and Italy to 90 in The Netherlands (LEI 2004). This shows that Green Care is relatively important both in countries with intensive agricultural production systems like The Netherlands and Belgium and in countries with smaller, more extensive farms like Norway and Italy (Table 1).

Table 1. Number of Green Care farms (absolute number and % of total amount of farms) and the average economic size (1 ESU = 1200 European Currency Units) in different countries and regions in Europe

Country/Region	Green Care farms		Farm size (ESU)
	Number	% of total	
Norway	550	1	10
Netherlands	430	0.5	90
Italy	325	0.01	9
Austria	250	0.1	11
Germany *	150	0.03	41
Flanders (Belgium)	140	0.4	53
Eggwil village (Switzerl.)	17	7	?

* In Germany the Green Care farms are part of health institutions

This observation seems to contradict the expectation that agriculture and care is mainly suitable for small-scale farming conditions because on such farms many operations are still conducted manually and a wide range of activities is performed.

In the more intensive, large-scale farming countries like The Netherlands and Belgium the number of Green Care farms increased dramatically in recent years, while in the small-scale farming countries the number of care farms developed more gradually. The increase in The Netherlands and Belgium in recent years is partly due to the worsening economic perspectives of the world-market-oriented agriculture. An increasing number of farmers are looking for new activities.

Diversity in Green Care farms

In all countries there are large differences between Green Care farms. There are differences in activities and goals, differences in financing, differences in the balance between care and agricultural production, and differences in target groups.

Different categories of Green Care farms are distinguished in Italy, Slovenia, Austria, Belgium and The Netherlands. In all these countries the categories are mainly related to the balance between care and agricultural production. A distinction can be made between the more care-oriented farms and the more agricultural-production-oriented farms. Different terminologies are used for this distinction: family farms versus social cooperatives in Italy; traditional household-based schemes versus nursing places in Austria; independent farms cooperating with health institutions versus institutional farms in Belgium, The Netherlands and Slovenia.

There is also diversity in target groups. In Norway children and psychiatric clients are dominant, in Switzerland and Sweden vulnerable children. The experiences in Belgium, The Netherlands and Italy show that Green Care farms can be a good provision for a diversity of target groups like people with mental problems, people with an addiction history, elderly people with dementia, autistic persons, long-term unemployed, people with burn-out and prisoners.

Goals differ from offering a useful daytime occupation, work training, social inclusion, rehabilitation, education, a place to live and specific therapeutic goals.

In some countries, like Norway and Switzerland, municipalities have a major responsibility for the primary services of the health and welfare sector. Financial agreements are made between local and county governments and Green Care farmers. In other countries like The Netherlands and Italy independent Green Care farms receive funding in various ways, e.g. by collaborating with a health institution or by a personal budget of the client. Payments of 40-70 euros per client per day have been mentioned in different countries. However, in Italy, The Netherlands, Belgium and Austria quite a number of independent Green Care farmers receive hardly any income from their care activities. The independent Green Care farms do not fit into the mainstream health-care-financing structures. Payment of care activities depends on negotiation capacities and motivation of the individual farmer.

Supporting structures of Green Care farms

In The Netherlands, Belgium and Norway national networks of Green Care farmers have been set up. In Italy the network is being created, and a structure for starting a supporting system has been developed in Poland.

The most extensive supportive structure for Green Care farmers has been developed in The Netherlands; this includes a national support centre and association of Green Care farmers, regional associations and study groups of Green Care farmers. This can be an example for other countries. The national support centre in The Netherlands has developed a quality system and a handbook for Green Care farms. These products are available for the other countries. This is already one of the benefits of the Community of Practice that has been developed.

HORTICULTURAL THERAPY, THERAPEUTIC HORTICULTURE AND HEALING GARDENS AND HEALING LANDSCAPES

Gardening became one of the 'specific activities' of occupational therapy as the discipline developed in the 1950s and 1960s in the UK. Gardening as a therapeutic activity is significant in the UK (with more than 800 projects), Germany (part of work therapy in 400 hospitals and rehabilitation centres) and Austria, where horticultural therapy is widely used in hospitals, nursing homes, vocational training institutions, schools and day centres. Initiatives for horticultural therapy, therapeutic horticulture, healing gardens and healing landscapes are usually taken by health institutions or local communities. A diversity of client groups is attending gardening projects. Horticultural therapy is supported by institutions like the Society for Horticultural Therapy and Thrive in the UK and the Association for Horticulture and Therapy in Germany. In Sweden some healing gardens are linked with universities. In the other European countries gardening as therapy has no recognized status.

Horticultural activities can be linked directly to health institutions or be part of the local community. In the UK therapeutic horticulture has its roots in hospitals. Present-day garden projects are often part of a local community: gardens and community gardens make up over half of the garden projects in the UK. A link with formal health institutions no longer always exists.

This development is in line with observations in other countries that allotment gardens, community gardens and city farms are more and more recognized as green sites that can be beneficial for human well-being in a curative and preventive way. Organizations of allotment gardens, community gardens and city farms are getting more interested to make room for specific client groups (Kieft and Hassink 2004).

FH can also contribute to the quality of landscapes as observed by Petrarca, the European Academy for the Culture of Landscape. Petrarca's work is connected to the intention to evaluate nature conservation and cultural landscape as marketable products of agriculture. Petrarca works in a participatory approach with organic farms. In several countries Petrarca observed that Green Care farms offer perspectives for combining sustainable farming for healthy people and for healthy landscapes. The cooperation between Petrarca and the FH initiatives can be very beneficial.

ANIMAL-ASSISTED THERAPY, EDUCATION AND ACTIVITIES

The use of farm animals for therapeutic purposes is not widely accepted and implemented. Riding therapy or equine-assisted therapy is the best known form. Equine-assisted therapy is recognized as a useful and meaningful therapy for children, youngsters and adults with mental or physical disabilities, learning and behavioural problems or psychiatric disorders. In Finland riding therapy has a recognized status. In Germany, Switzerland and Austria, equine-assisted therapy is divided into three different forms. Hippotherapy is physiotherapy from a medical perspective. 'Behindertenreiten' is riding for the disabled as a sport activity. 'Heilpädagogisches Reiten' has a psychological and pedagogic background. The

German Kuratorium fur Therapeutisches Reiten offers equine-assisted-therapy courses for therapists since 1970.

The European partnership programme 'Pegasus' aims to develop a postgraduate course of equine-assisted therapy for students already obtaining a diploma in the field of education, social and health care or psychotherapy. Another aim is to build a European Network of Expertise concerning equine-assisted therapy. Spain, The Netherlands, Slovenia, the UK and Belgium participate in the project. An international congress 'The Complex Influence of Therapeutic Horseriding' was held in Hungary in 2003.

In Austria several projects have started in the field of animal-assisted pedagogics and therapy. Initiatives in animal-assisted therapy and education have started in Germany and Portugal.

As for gardening as a therapeutic activity, there is increasing interest in animal-human interactions, which is not directly linked to formal health institutions. The contacts with farm animals are recognized as an important quality for different client groups on city farms and Green Care farms.

Therapy with pets, mainly dogs, has its origin in the USA. The International Association of Human-Animal Interaction Organisations (IAHAIO) has members all over the world. Research and experiences on topics of beneficial interaction between humans and animals were discussed at an international conference in Scotland in 2005. Keynote speakers came from the USA, but also from Europe, Australia and Asia.

SCIENTIFIC KNOWLEDGE AND EDUCATION

Research

It has been recognized that there is limited scientific knowledge on the possible beneficial influence of FH activities on our health and well-being (Gezondheidsraad 2004). Recently some research projects have started in different countries. Currently the effect of Green Care is studied in Norway and The Netherlands. In Norway the study is focussed on the contribution of Green Care farms on the development of clients with psychiatric problems. In The Netherlands, clients with an addiction background and clients with chronic psychiatric problems are the target groups. In both studies the development of clients is monitored for a period of more than one year. Human-farm-animal interactions are investigated in Norway, Finland and The Netherlands. In Sweden, the UK and The Netherlands the effects of gardening and nature on human health are studied. Different approaches are chosen: interviews and quantitative research with control groups. In the near future, the sector needs to prove the effects of working on a farm or in nature for different kinds of people. This is crucial to become a generally accepted provision in health care and to develop sustainable financing structures. Evaluations and research on the satisfaction of clients could give more inside information about the significance of different elements of working on the farm on clients and their quality of life. Research should be performed by interdisciplinary teams of researchers with a

background in health care and agriculture or nature. It is also recognized that a common conceptual framework for FH activities should be developed. This framework should include models describing Green Care, horticultural therapy and animal-assisted therapy and explaining why interactions with plants, animals and nature are beneficial for well-being.

Education

Educational activities regarding FH are still limited. University programmes in this area have started in Norway, Sweden and Italy. Educational activities at secondary schools take place in Italy and The Netherlands.

In The Netherlands educational programmes are developed for the clients in need to teach them how to be a good assistant of the farmer, as well as for farmers to be a professional Green Care farm manager.

International exchange of educational programmes in the context of FH is initiated by the Centre of Expertise Agriculture and Care at Dronten, The Netherlands.

FINANCING FARMING FOR HEALTH INITIATIVES

In most cases FH activities that are not part of a health institution are not a generally accepted provision in health care. Sustainable financing structures are often missing. General tendencies observed in different countries are:

- cutting down on costs for health care;
- increasing individual responsibility;
- increasing competition;
- demanding quality assurances;
- demanding effectiveness of treatment;
- decentralization: making municipalities more responsible for financing the primary services of the health and welfare sector.

This means that FH activities should invest in good relationships with municipalities, quality systems and research showing the effectiveness of their activities. This requires local and regional cooperation between different FH projects. Specific tasks that should be covered are: promotion activities, matching supply and demand, education, and building networks with health institutions, welfare organizations and client organizations.

DIFFERENCES BETWEEN EUROPE AND THE UNITED STATES OF AMERICA

The development of FH in the US is quite different from that in Europe. In many European countries an increasing number of commercial family farms initiate Green Care activities. In the US this is not the case. Here, farm-based programmes are started by non-profit organizations. This may be due to the different focus of US commercial farms. In the US the average farm size is 200 hectares, compared to 19

hectares in the European Union. Many US farms are corporate farms focussing on technology to increase productivity and profitability. Many US farm-based programmes are dealing with at-risk children.

The US is the basis of many initiatives and organizations in the field of horticulture and plant-related therapy and animal-related therapy. Well-known organizations are the American Horticultural Therapy Association and the Delta Society.

SIGNIFICANCE OF FARMING FOR HEALTH

The contributions of the different countries show that FH relates to many human and societal issues. The most obvious ones are highlighted below.

Benefits for different client groups

Working with plants and animals and farm life offers space, structure, diverse activities and stress reduction. The necessity of the activities and the interaction with animals and plants generate engagement. The working environment of a Green Care farm offers status and social contacts.

FH projects can contribute to rehabilitation and inclusion of clients and can be an educational tool.

Farm economics and economics of rural areas

Green Care farming is an example of multifunctional agriculture and land use. It appears that most multifunctional farmers perform different broadening activities. This means that many Green Care farmers are also involved in nature and landscape conservation and recreational and educational activities. Main motives of farmers for broadening activities are: personal interest, self-realization, enriching one's own life with new activities and need of extra income (Oostindie et al. 2002). Broadening activities can contribute significantly to the family income. The income generated with Green Care activities can be crucial for the survival of farmers.

Strengthening urban-rural relationships

Green Care creates new linkages between agriculture and society at large. Green Care can be of specific importance for rebuilding urban-rural relationships. Clear examples in different countries have been presented. Swiss farmers offer a safe place for psycho-socially periled children from the cities such as Berne, Bâle (Basel) and Lucerne. In The Netherlands and Italy, urban people with drug addiction history and inmates experience the quality of farm life in the rural area. The involvement of urban citizens with gardens and city farms can be a first step to become interested in farming in the rural area around the city. In an urbanizing society, rural values become more scarce and more valuable (Van der Ploeg 1998).

Preserving the landscape

Green Care farms can contribute to landscape development. The focus on intensification and efficiency in agriculture during the last decades has often resulted in the diminishing of characteristic landscapes. Another threat for the openness of the landscape is urban pressure, mainly in Western Europe. German research showed that organic farmers pay more attention to landscape quality than more traditional farmers. Their motives are exceptionally intrinsic in nature. It also appeared that Green Care farms have unique opportunities to contribute to landscape development. Green Care farms generally have more access to financial support for integrate landscape measures in their farm activities and they have more access to labour. Especially in winter, activities in landscape development and nature conservation can be attractive ways to broaden the activities for clients.

FUTURE OF FARMING FOR HEALTH

The general opinion in the different chapters is that FH is a promising development as it links up with various developments in society; the increasing demand of inclusion and rehabilitation of clients with mental and psychiatric problems, the demand for multifunctional forms of land use, additional sources of income for farmers and rural areas, and the reconnection of rural and urban areas and agriculture and society. It is expected that the number of Green Care farms will increase in the coming years and that Green Care, horticultural therapy and animal-assisted therapy will get more interaction.

Increasing number of Green Care farms

In The Netherlands and Belgium, the amount of Green Care farms has increased dramatically in the last few years. It is to be expected that in most European countries the number of Green Care farms can increase considerably in the years ahead.

- In most countries one or a few target groups are still dominant. The broadening of target groups in The Netherlands, Belgium and Italy can also take place in other countries.
- According to Dutch research 6% of different target groups (elderly, people with mental disability, people with psychiatric problems) are interested in day activities on a Green Care farm (Kramer and Claessens 2002). This is three times larger than the actual percentage making use of a Green Care farm.
- According to a recent European survey (Oostindie et al. 2002) more than 12% of the farmers in the European Union are interested to perform care activities on their farm. Presently, less than 1% of the farmers are performing care activities.
- Most Green Care farms are located in the rural areas of the country. The new target groups like people with an addiction history, elderly people, youth at risk and long-term unemployed are concentrated in the urban areas. The increase in Green Care initiatives may be considerable especially in urban areas.

Integration of Green Care farming, Horticultural Therapy and Animal-Assisted Therapy under the umbrella of Farming for Health

An important development is linking different networks under the umbrella of FH. This concerns:

- linking the green spaces in urban areas (city farms, community and allotment gardens) with green areas around cities (Green Care farms and nature areas);
- linking formal green therapies such as horticultural therapy in health institutions with green activities that are not directly linked with health institutions but increase well-being of clients;
- incorporating the green and agricultural networks into health care and rural and urban networks.

This development is in line with the many examples from the different countries showing that different green therapies, Green Care farms and gardening can all offer a suitable day activity, therapy or place to live to many different client groups. The first experiences of different target groups working in community gardens and on city farms are positive. It has been indicated that green environments including farms can contribute to health in different ways: recovery from stress and attention fatigue; encouragement to exercise; facilitating social contact; encouraging optimal development in children; and providing opportunities for personal development and a sense of purpose (Gezondheidsraad 2004). These mechanisms of beneficial influence of nature on health can take place in all indicated green settings. The integration of different fields like agriculture and care with different goals and terminologies, the development of FH initiatives in many different European countries, the extensive practical experience in this emerging field and the need to develop a common language and unifying concepts explaining the health-promoting mechanisms show the urge to develop a European network.

RECOMMENDATIONS FROM THE MEETING HELD IN MARCH 2005 FOR A
RESEARCH AND POLICY AGENDA

Research

- Develop a multidisciplinary scientific network that coordinates a joint programme and develops projects in this new field.
- Develop a common underlying conceptual framework defining the content of FH and explaining the health-promoting mechanisms.
- Initiate a European survey in the field of FH to get a clear picture of the number, size and diversity of social projects in agriculture.
- Initiate common multidisciplinary research projects including among others agronomists, sociologists and psychologists.
- Compare different methodologies to study the effects of Green Care and other FH projects for the well-being and development of clients.
- Integrate qualitative and quantitative research methods, compare results of different target groups and stimulate the use of control groups.

- Develop a common methodology to quantify and compare the economic, social and ecological performances of FH initiatives.
- Compare the impact of FH initiatives in rural and urbanized regions and determine the contribution to rural and urban challenges like revitalizing the rural area, social cohesion, preserving the landscape, inclusion and diminishing feelings of insecurity and annoyance.

Policy

- Create awareness of the potential contributions of FH initiatives to challenges in different areas like health care, agriculture and welfare.
- Facilitate initiatives that try to connect urban demands and rural qualities.
- Facilitate farmers, clients and health-care organizations that initiate innovative FH projects.
- Stimulate that all European countries can learn and benefit from the experiences in countries that are most experienced in FH.

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Farming for health

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Farming for Health

Green-Care Farming Across Europe and the United States of America

Edited by

Jan Hassink and Majken van Dijk

The utilization of agricultural farms as a base for promoting human mental and physical health and social well-being is a new promising development. On farms, the animals, the plants, the garden, the forest and the landscape are used in recreational or work-related activities, for psychiatric patients, people with learning disabilities, people with a drug history, problem youth, burnt-out and elderly people and social-service clients. If not pure therapy, such activities may have therapeutic value according to extensive experience. The numbers of such multifunctional farms offering Green Care services is increasing rapidly in many countries. The positive experiences seem to be similar in different countries: working on the farm contributes to self-esteem, social skills, rehabilitation, inclusion, responsibility, physical health and sense of purpose. Important recognized qualities of Green Care farms are the space, quietness, useful work, diverse activities, caring activities, the working with plants and animals, and the protective and caring environment of the farmers' family and social community. Social farming appears as an evolving, dynamic scenario, which is gaining increasing attention from multiple stakeholders. The first part of this book contains scientific papers dealing with different aspects of Farming for Health. The second part describes the situation in different countries.

